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Implementing the mission-funded naval shipyard a case study on change management

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THESIS

IMPLEMENTING THE MISSION-FUNDED NAVAL SHIPYARD: A CASE STUDY ON CHANGE MANAGEMENT

by

Jed R. Espiritu

June 2004

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This thesis seeks to determine how the naval shipyards could better implement mission funding after having worked extensively under a Working Capital Fund structure. Several principles exist in current management literature that can be applied to this change at the naval shipyards. Of these principles, six recurring guidelines for successful change management and an organizational open-systems framework are used to provide guidelines for shipyard change managers.

The transition of the Puget Sound Naval Shipyard provided a case study for applying this managerial theory. The six guidelines of change management were found to have applications for the case study, revealing the need for a clear vision statement, a leadership core, communication on multiple levels, attention to change inertia, and rewards for change behavior during a transformation. Furthermore, six key factors for success at Puget Sound Naval Shipyard provided additional guidelines for future transitioning shipyards, promoting command-level attention to mission funding issues, making a commitment to best practices, developing a specific timetable of milestones, seeking alternative sources of funding, performing functional area assessments, and developing and employing desk procedures.

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**IMPLEMENTING THE MISSION-FUNDED
NAVAL SHIPYARD: A CASE STUDY ON
CHANGE MANAGEMENT**

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Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF BUSINESS ADMINISTRATION

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I.   INTRODUCTION

In today's dizzying world of change and evolution, the Department of Defense (DoD) is constantly looking for ways to improve itself. From employing direct-energy weapons to the use of network-centric warfare, many revolutionary ideas within the DoD are changing the way we do business. With think tanks such as the DoD Office of Force Transformation dedicated to creating ideas to sustain "American competitive advantage in warfare" (http://www.oft.osd.mil/), many such concepts can leave defense managers saying, "That's a good idea, but how do we implement it?"

One such idea has been the consolidation of maintenance facilities. This is being supported by a shift in naval shipyard financial management from a business-like structure that employs *working capital* funding to one of fixed, directly *mission-funded* resources. Pearl Harbor Naval Shipyard (PHNSY) was the first to transform in this way in 1998. As the second organization to undergo this transformation, Puget Sound Naval Shipyard (PSNS) has obtained lessons learned from PHNSY. However, these lessons may not be enough to guide its managers through the transformation given each organization's unique traits.

Scholars of private sector organizations have been studying organizational and change theory for decades. Today's literature can provide guidelines for implementing lasting change. Using the successes and failures of private firms and their documentation in today's change management literature, this thesis aims to provide guidelines for implementing the change to mission-funded naval shipyards.

A.   OBJECTIVES

The primary research goal of this thesis is to determine how naval shipyard management could better implement mission funding (MF) after having operated extensively under a Working Capital Fund (WCF) structure. To help reach this objective, the following supporting research questions were explored:

- What are the differences between WCF and MF? What managerial implications do each hold for the shipyard manager?
- What organizational theories can be applied to change at the naval shipyards?

- What are some basic principles of transformational change? How can these principles be applied to the naval shipyards' transformation?

B.   SCOPE

The purpose of this thesis is to:

- Explain the principles of and differences between WCF and MF, including the associated management issues as they pertain to the naval shipyards.
- Describe organizational and management principles that can be used to successfully transform the shipyard's way of doing business.
- Describe the rationale behind the change in the naval shipyard financial structure from WCF to MF and a case study in this change.
- Suggest guidelines that the shipyard manager can use in the attempt to transform his or her organization.

This research will not:

- Examine the soundness of the decision to convert the shipyards from WCF to MF.
- Explore in detail the managerial issues revolving around the merger of two organizations.
- Propose specific metrics for the implementation of shipyard pilot programs.

C.   METHODOLOGY

Current organizational theory and change management literature provided the backdrop to understand and analyze the shipyard transformation process. Literature, specifically in the study of public sector change, was selected from academic journal bibliographies and from academic references in the NPS Graduate School of Business and Public Policy Financial Management curriculum. The assumption was that the lessons learned from the private sector could be applied to public sector change management, specifically the transformation of the naval shipyards.

Navy financial systems were also reviewed in order to define financial and managerial boundaries for the shipyard manager. The online Defense Working Capital Fund Handbook on the OSD Comptroller "iCenter" website, the Financial Management

in the Armed Forces (GB3510) Practical Financial Management Handbook, and personal interviews provided the materials for this research on the Navy financial systems.

Field research at Puget Sound Naval Shipyard was conducted to gather the background information for the case study (see Chapter III). Personal interviews, phone conversations, and e-mails with key change leaders within shipyard management were the primary data collection tools. Additional data were gathered through personal interviews and phone conversations with key employees participating in the change process.

D.   ORGANIZATION

Chapter II provides the overview of academic research on organizational and change management theory. This research aims to provide shipyard managers with management guidelines that may be applied to their organizations. Further, this background provides: a) an organizational framework and b) recurring principles of change management for use in the analysis of Chapter IV.

Chapter III presents the details of the Navy's transformational plans. It explains the basic principles behind Navy maintenance and funding processes and examines the reasons, events, and trends leading to the shift in financial systems at the Puget Sound Naval Shipyard. Finally, the case study explores the implementation of the Puget Sound pilot plan as it currently stands, examining the management issues that have surfaced.

Chapter IV presents an analysis of the Puget Sound pilot plan based on the change management principles and organizational framework researched in Chapter II. It examines how well PNSN management has implemented a change program and analyzes how close it has come to implementing the management principles for a successful financial management change program. In doing so, it examines the applicability of change management principles to future naval shipyards undergoing the change to mission funding.

Chapter V offers the findings of this research and answers to the research questions posed in Chapter I. It also summarizes the lessons learned from Chapter IV. In addition, it explains the limitations for this type of thesis research. Finally, it presents recommendations for further study on transforming the naval shipyards.

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II.   BACKGROUND

The naval shipyard, like any other major public organization, operates with a multitude of interconnecting processes and people. From project planning and management to material ordering and work package production, right down to the rigging and welding of repair parts, the shipyard's internal processes form an intertwined network of administrative, maintenance, repair, and modernization workflows. With so many details involved in the interactions and processes within their organizations, shipyard managers face a potentially daunting task in conducting managerial analysis: How can a manager begin examining an organization as complex as a naval shipyard?

This chapter explores a framework that will be used to analyze the case study presented in Chapter III. It then examines principles of transformation that have led to successful organizational change in the private sector and apply those principles within the context of the organizational framework. The aim is to provide private-sector principles for use by shipyard managers who are or will be changing the way they do business. These principles, along with the organizational framework, will be used to conduct the analysis in Chapter IV. Before delving into this foundational set of principles, however, the chapter will first explore the origins and general purpose of organizational theory.

A.   ORGANIZATIONAL THEORY

For over sixty years, organizational theorists have studied, analyzed, and attempted to frame organizations to help managers understand the broad dynamics of their establishments (Tsoukas and Knudsen, 2003: p. 2). In the early years of what has become an accepted scientific field, these theorists used static models to describe organizations. The intent was to provide a sort of map for organizations to follow, despite the lack of any historical, sociological, or philosophical analysis of the organization itself (Albrecht, et. al, editors, "Administrative Behavior", 2002).

The shift away from this static theory began with the writings of Herbert Simon (1976) in the mid-1940s when he wrote that an organization is more than simply an organizational chart but a "complex pattern of communication and relationships in a

group of human beings" (p. xvii). This systems approach to organizations (looking at the establishment as a complete system) proved to be well ahead of Simon's time, for it was not until the 1990s that this method began to be widely used by corporate executives (Albrecht, et. al, eds., "Administrative Behavior", 2002).

Today, the systems approach to organizational models has evolved into analyzing organizations as open systems (Nadler and Tushman, 1988). Using this approach, one can view the organization on the most basic level as a system that converts inputs to outputs. The focus here lies in the conversion process itself, which takes environmental inputs such as resources and information, transforms those inputs, and produces organizational outputs in the form of goods or services. Figure 1 illustrates this concept.
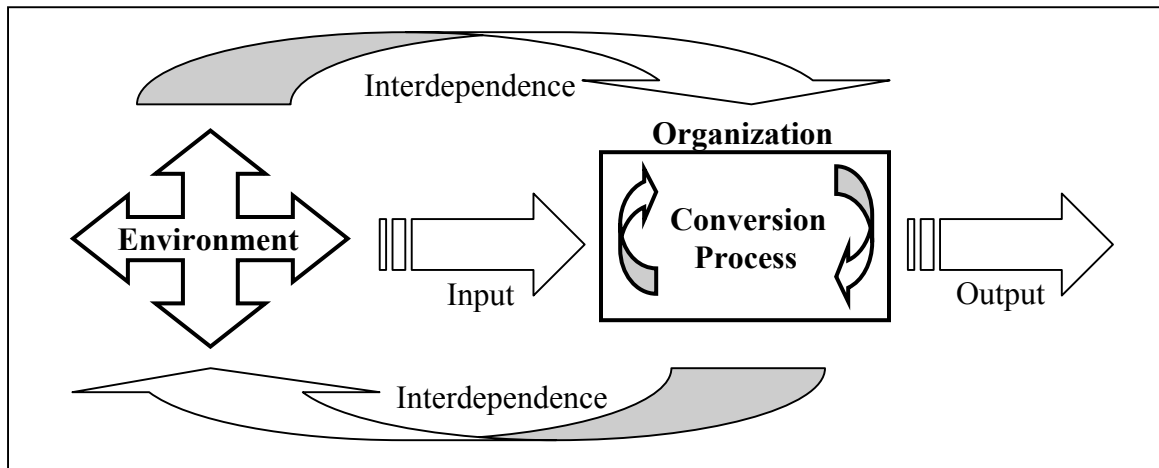
Figure 1.   Basic Open-System Organizational Model. [From: Thesis Author]

A critical detail distinguishes this organizational theory from its predecessors: an open system interacts with and is interdependent on its surroundings. Thus, an external change affects the organization and an internal change affects the environment, shifting the equilibrium between the two. This same interdependence also occurs within the organization as each interconnected sub-process affects the others. In the end, successful management of these interdependencies, both external and internal, leads to the successful completion of the conversion process.

Using an open system model to describe the naval shipyards requires that managers develop a holistic view of their organization. It is believed that through this

theoretical lens, managers are able to identify internal organizational relationships and gain a clearer view of the business. Most importantly, by reducing organizational complexities, the framework can serve as a managerial tool to help managers make more informed decisions about the change process.

B.   THE ORGANIZATIONAL SYSTEM'S FRAMEWORK

The Organizational System's Framework (OSF) (Roberts, 2003) is an open system model that provides both a broad view of an organization (both public and private) and an in-depth look at its components (see Figure 2). With its six basic elements and an extensive consideration for the environmental context, it seeks to describe the often-shifting, dynamic equilibrium that the organization has with its surroundings.

When its environment changes, a firm must adapt for it to reestablish equilibrium. Organizations adapt by what the OSF terms ***corrective interventions***: managers steer the business in a new direction or make modifications in its basic design. In turn, as the establishment adapts, it has its own impact on the world around it. This open system model, then, describes the "mutual adaptation" (Roberts, 2003) between the organization and its surroundings. This mutual adaptation is a key concept in the model's application to the naval shipyards.

With this overview of the Organizational System's Framework, the following section explores the main elements of the model.

1.   Definition of Terms

The Organizational System's Framework consists of three major categories: components external to the system, those found internal to it, and those that emerge from these first two categories. External components involve the organization's key success factors and its environment. Internal components, on the other hand, contain the system's direction and design factors. Lastly, emergent components include the organization's culture and its results. This section defines each of these components and leads to a discussion of the OSF's applicability to naval shipyards.

Organizational System's Framework

Inputs ———→ **Throughput** ———→ **Results**

Design Factors

ENVIRONMENT/ CONTEXT
(external to system)
- Political Trends ?
- Economic Trends?
- Social Trends?
- Technological Trends?

KEY SUCCESS FACTORS
- What does it take for the system to be successful?

SYSTEM DIRECTION
- Mandate?
- Values?
- Mission?
- - - - - - - -
- Strategic Issues?
- Vision?
- Goals?
- - - - - - - -
- Strategies?

TASKS/JOBS
- What are the basic tasks? How formalized are they?
- What specification is required?
- What differentiation is required?

TECHNOLOGY
- How can the work flow be described?
- What are the activities in the work flow?
- What are the key inter-dependencies among the work units or activities in the work flow?
- What is the condition of the physical facilities and equipment?

STRUCTURE
- How to describe the structure?
- What are the basic groupings of activities and people? How are activities/tasks combined or departmentalized?
- How are the groupings integrated? What integrating devices are used?

Hierarchy?
Task Forces?
Integrating Roles?
Integrating Departments?
Matrix?
Networks?

PEOPLE
- Who are the people? Motives, expectations, mindsets?
- What are their knowledge, skills, and abilities?

PROCESS/SUBSYSTEMS
- Financial Management, Measurement & Controls?
  - How are people held accountable for resources? Describe: budgeting, control, performance measurement, performance appraisal processes.
  - Do these mechanisms of accountability produce the desired patterns of behavior?
- Human Resource Management
  - How do we recruit, select, retain, rotate, promote, terminate, retire our people? Do we have the kind of people we need?
  - How do we train and develop people and are our current efforts adequate? Describe: OJT, formal training programs, team building or other organizational development activities, career development.
  - What is formally rewarded (both positive and negative rewards)? What is the basic compensation package: bonus & commissions, opportunities for advancement, recognition & praise? Are rewards tied to performance assessment?
- Communication Information Planning and Decision Making
  - How do we communicate?
  - How do we gather, process, distribute and evaluate Information?
  - How do we plan?
  - How do we make decisions?
- Acquisition & Contracting: How do we manage the acquisition process?

CULTURE
- How do people behave? Are their espoused values manifested in behavior?
- How is conflict managed?
- What are the informal patterns of interaction?
- Are there sub-cultures?
- Does the culture impede or facilitate integration of effort?
- Does the culture fit the larger environment?

OUTPUTS
- What does the system offer/produce in terms of goods and/or services?
- How are outputs measured? What are indicators of performance?

OUTCOMES
- What are the implications/consequences of outputs for stakeholders?
- How are outcomes measured?

Professor Nancy Roberts 2/2004

Figure 2.   Organizational System's Framework. [From: Roberts, 2004]

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a. External Components

Key Success Factors declare the actions required for the system to achieve its conversion process and thus provide the guidelines for organizational success. Managers take these factors into consideration when they are planning the direction of their organizations. The *Environment* or *Context* contains what is commonly referred to as *PESTs* (GB 4014, 2003): political, economic, social and/or technological trends that may impact the organization. An analysis of the PESTs explores the environmental issues that affect the open system and serve as important inputs to the organization's conversion processes. Although external to the system, these elements present important issues for managers and stakeholders of an organization.

b. System Direction

System Direction plots the course for the organization. Upper management makes major contributions to organizational results through this element. Through seven directional sub-elements, managers and stakeholders frame the issues at hand and take actions necessary to adapt the business to environmental changes.

The first of these directional sub-elements, the system's *Mandate*, describes the official statement that defines a public organization and sets forth its parameters of action. For example, NASA's mandate to land a man on the Moon in the 1960's and its more recent mandate to land a man on Mars declared one of the organization's required outputs, providing one basic element of system direction.

The system's mandate is different from its *Mission*, which defines the organization's reason for existing. In the context of an open system, it describes the conversion process of the organization in terms of its inputs, conversion process, and outputs: it defines what the business does, for whom, and how it will attempt to accomplish this. The establishment's mission is often manifested in an organizational mission statement, which can include a presentation of the organization's major competencies and motivations.

The OSF also distinguishes the organization's vision from its mandate and mission. Whereas both mission and mandate deal with what is or what must be done today, the OSF defines organizational *Vision* as what the business will be and what it will

look like in the future, if it is successful. An organization's vision is usually declared via a separate vision statement and should provide as vivid a description of the organization's future state as possible.

Throughout its lifetime, and through its critical interaction with its surroundings, an organization will face several major challenges or questions. Without managerial corrective interventions, these key issues could put the business's future in jeopardy. The OSF defines such a critical concern as an organization's **Strategic Issue**. Dealing with this issue, management develops a **Strategy** that describes how the organization will achieve its mission, mandate, and vision despite the strategic issue at hand. These critical elements help mold the organization and aid in creating strategic direction for the entire system.

In building its plans, management further defines system direction with organizational values and beliefs and by setting goals. Through **Values and Beliefs**, managers describe the manner of behavior that the organization espouses – they are declared values and beliefs and may not describe the actual conduct of business within the organization. (The business's actual conduct is later described within the element of organizational culture.) Finally, the OSF defines **Goals** as those actions that must be achieved by the organization to achieve success.

Using these seven elements of system direction, shipyard managers can better plan for the future success of their organizations. Furthermore, these principles provide tools by which the business can adapt to its environmental changes. Along with these seven direction-setting elements, the OSF contains additional levers for change, particularly in the system's five major design factors.

c. *Design Factors*

The OSF Design **Factors** provide a description of how work within the organization is accomplished. The OSF's design factors include the organization's **People**, describing their specific traits: skills, abilities, and knowledge. The OSF also characterizes people by their mindsets, motivations, and expectations. These qualities serve to describe a particularly important design factor and illustrate a key interrelationship within the organization.

The OSF design factors also include a description of the basic **Tasks** or **Jobs** that the organization's people perform.   Additionally, they look into the **Technology**, or the flow, of this work.   During an organizational change process, tasks and workflows become especially important for people as the very nature of their work is redefined.

The system design factors also describe the organizational **Structure**: the degree of centralization of command, the method of assigning responsibility, and the method of integrating structures.   Under this structure, the OSF also explores the **Processes** or **Subsystems** that operate within the organization: the financial and human resource management structures, the communication and information processing systems, and the methods of acquisition and contracting.   These design features not only help to describe the organization's internal structures and processes, but serve as further tools for implementing change.   While they define the organization at one point in time, they also offer the means to change the organization in the future.

d.   Emergent Components

The organizational **Culture** describes the manifested attitudes and behavior of the people in the organization: people may interact with one another and with stakeholders differently than what is espoused in the organization's stated values and beliefs.   One may wonder why the system culture is not contained within the organization's design factors.   The OSF contends that culture emerges from the organization's upstream processes.   An organization's culture thus cannot be designed; rather, it emerges from the system's direction and design factors.

As discussed earlier, an open system takes environmental inputs through a conversion process and produces outputs.   The OSF, however, takes this level of analysis further by distinguishing between organizational outputs and outcomes as two separate results of the conversion process.   **Outputs** describe the goods or services that the organizational processes produce.   **Outcomes**, on the other hand, represent the consequences of the goods or services for various stakeholders.   Both of these organizational results are defined and measured by performance indicators and metrics; however, the business outputs describe more tangible results than the consequential outcomes, although both hold equal importance in the analysis of the organization.

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2. Additional Characteristics

The OSF provides a great level of detail in describing the internal characteristics and processes of an organization. This level of detail transcends other models used in organizational theory, particularly in its consideration of the organization's culture, outputs, and outcomes as key aspects to an organization's design.

Managers and stakeholders measure organizational performance through feedback loops, as shown by the OSF in Figure 2, and adjust system direction accordingly, using corrective interventions to align the organization with a new direction. This internal change process based on feedback involves interventions that can cause either total system change (transformational change) or changes that are meant to affect only certain parts of the system (incremental change). Whether the interventions are intended to change the entire system or just certain elements, the OSF presumes these interventions have a ripple effect throughout the entire organization: a change in one part of the organization, such as its financial management structure, can affect every element of the organization. This concept, along with its applicability to the naval shipyards, is explored in greater detail in this chapter and in Chapter IV.

3. Summary

The Organizational System's Framework provides an effective means for analyzing our naval shipyards as open systems. Because the OSF provides both a broad view and a detailed analysis of either public or private organizations and seeks to describe the organization's interdependence on the environment, it has been chosen to examine the current change process for Puget Sound Naval Shipyard. Applications of its principles will be used in the analysis of Chapter IV. With an understanding of the underlying concepts of the Organizational System's Framework and its critical elements, the chapter will now review the basic principles change management theory.

C. THE MANAGEMENT OF CHANGE

Within the realm of organizational sciences, change management theory has been a relatively recent development. In 1963, with the writing of *A Behavioral Theory of the Firm*, Richard M. Cyert and James G. March introduced the concept of organizational learning, which states that a business learns from its experiences and from the experience

of other businesses (Augier and March, 2002). Like Herbert Simon (1976), they argued against the contemporary theory of their time that viewed businesses as static and constant: "If we take seriously the concept of a firm as something distinct from an individual entrepreneur, there is no consensus on a theory of a firm." (Cyert and March, 1963: p. 10) This work introduced a new organizational science dealing with the management of change.

The change literature has undergone its own transformation. Before the mid-1980s, change was viewed primarily as driven from the top of an organization. The early literature recognized the theory of change management generally as a chief executive looking inward on the organization to envision and implement change (Forbes, Jr., 1973; OECD, 1980; Weiss, 1986). This theory later shifted to a bottom-up approach, one that believed that an organization should look to its surroundings in an adaptive and inventive manner rather than waiting for upper level management to drive and implement change (Beer, Eisenstat, and Spector, 1990; Grove, 1996; Kotter, 1996; Thornhill et al., 2000; Jick and Peiperl, 2003).

Change management has come to the forefront of managerial agendas around the world, as evidenced by its pervasiveness in today's managerial literature. Management texts, both in private and in public sector publications, teem with such catch phrases as "organizational transformation," "reengineering," and "continuous improvement." A search conducted on the Library of Congress Online Catalog (http://catalog.loc.gov/) for the keyword "organizational change" alone yielded over 10,000 entries (more than could be displayed) since 1990.

With such vast literature available in any public library or online bookstore, the information on this topic can overwhelm the operational manager. Within the context of our systems model, however, the management of change simply seeks to describe and analyze one thing: the adaptation of an open-system model to changes in its surroundings. Change management becomes necessary when a change in the environment stresses the organization's shifting equilibrium. Thus, with an understanding of the basic principles of open-system models and a background in change

management theory, we can narrow our scope of the available literature. At the same time, we can analyze the dynamics of an organization like the naval shipyard as it adapts to its environmental change.

D.   GUIDANCE FOR MANAGING ORGANIZATIONAL CHANGE

Much of today's change management literature examines the successes and mistakes of private firms that have undergone transformational change (Nadler and Tushman, 1989; Beer, Eisenstat, and Spector, 1990; Kotter, 1996; Schaffer and Thomson, 1998; Strebel, 1998; Jick, 2003; Amis, Slack, and Hinings, 2004). Although such texts present guiding principles for organizations in the private industry, many of these concepts can be soundly applied to today's naval shipyards. These works in no way provide a single checklist or framework for the shipyards to follow. However, selecting recurring and frequently suggested concepts from these academic sources provides a basis for analysis in Chapter IV. These concepts will offer methods for managers who are attempting to navigate through the naval shipyard's shift in financial management processes.

Among the change management literature reviewed for this research, six recurring factors for successfully implementing a transformational program emerge: (a) creating a clear vision; (b) obtaining the critical mass in a change leadership coalition; (c) communicating on multiple levels; (d) addressing change inertia; (e) creating a learning organization through short-term results, and; (f) rewarding change (Nadler and Tushman, 1989; Beer, Eisenstat, and Spector, 1990; Beckhard, 1992; Kotter, 1996; Schaffer and Thomson, 1998; Strebel, 1998; Thornhill et al., 2000; Albrecht, et. al, editors, "Implementing an Effective Change Program", 2002; Heller, 2002; Jick, 2003; Amis, Slack, and Hinings, 2004). These six principles provide the framework for analyzing the Navy shipyards' shift to a mission funding structure.

1.   Formulating a Clear System Vision Statement

With their organization experiencing pressure for change, managers and employees alike face a number of questions: What should we do? Should we change? How and in what manner should we change? How will these changes affect the organization? Managing change requires creating a vision for change and a set of

matching strategy and goals that can answer such questions (Nadler and Tushman, 1989; Beer, Eisenstat, and Spector, 1990; Kotter, 1996; Collins and Porras, 1998; Thornhill et al., 2000; Jick, 2003).

The importance of a vision surfaces in Kotter's (1996) 15-year study of private sector organizations. He finds that many unsuccessful transformations attempt to provide direction through complicated plans and programs that not only fail to explain management's vision but actually blur it (p. 8). He asserts that vision statements of effective change programs have four focusing traits: (a) They eliminate many or all possible misinterpretations of the vision; (b) they single out areas requiring change; (c) they set clear targets, and; (d) they are reasonably concise (p. 78). He adds that effective vision statements use metaphors and analogies and are simple with no "technobabble" (p. 90). Such characteristics, Kotter asserts, help create a clear picture of what the organization aims to be after the change process.

Collins and Porras (1998) agree that a vision must be graphic, adding that vision statements must contain both passion and conviction and should translate words into such images that will linger in the minds of the organization's people (pp. 42-44). They emphasize this required vividness using the vision of Henry Ford:

> I will build a motor car for the great multitude….[sic]It will be so low in price that no man making a good salary will be unable to own one and enjoy with his family the blessing of hours of pleasure in God's great open spaces….[sic]When I'm through everybody will be able to afford one, and everyone will have one. The horse will have disappeared from our highways, the automobile will be taken for granted…[and we will] give a large number of men employment at good wages (As cited in Collins and Porras, p. 42).

Henry Ford's vision meets all of the criteria: it illustrates what the organization is trying to do, communicates the reasons for the change, and helps to shift people's mindsets from wondering how the change will affect them to wondering how they can contribute to the change. An effective vision statement thus can serve to unite people under the tenets of change. Moreover, such a vision statement provides the critical overarching principle for incremental, results-oriented efforts (a point discussed later in this chapter).

## 2.	Obtaining Change Leadership Critical Mass

A crucial driving force for formulating and communicating the organizational vision lies in the creation of a strong leadership coalition, led by a strong leader (Nadler and Tushman, 1989; Beer, Eisenstat, and Spector, 1990; Kotter, 1996; Albrecht, et. al, eds., "Implementing", 2002; Jick, 2003). Such a leader must keep all actions aligned with the organizational vision. Nadler and Tushman (1989) explain that such a leader "serves as a focal point for the change, whose presence has some special 'feel' or 'magic'" (p. 200). A strong, motivational leader provides the driving energy for change.

Powerful leaders alone cannot sustain organizational change on their own. Kotter (1996) explains that while executives take the lead in the transformational effort, they should leave most of the lower level managerial and leadership specifics to subordinates (p. 140). A single change leader, then, cannot do it alone, no matter how inspirational and energetic: he or she will need key stakeholder representatives, or a leadership core, to help drive change. Jick (2003) explains that doing so not only promotes buy-in from the organization through collaboration in the planning process but also takes advantage of the different skills and strengths that stakeholders have to offer (p. 180). Kotter (1996) agrees, further explaining the makeup of this leadership core:

> This group rarely includes all of the most senior people because some of them just won't buy in, at least at first. But in the most successful cases, the coalition is always powerful – in terms of formal titles, information and expertise, reputations and relationships, and the capacity for leadership (p. 6).

Forming a core group of stakeholder representatives would thus increase the strength of leadership in the change process. Without this critical mass, a leader's change vision may not suffice against the organization's tendency toward the old way of doing things.

## 3.	Communicating on Multiple Levels

Even with a graphic vision of the future and a strong leadership core, communication can become the deciding factor between the life and death of a change program. Successful change managers use effective communication as leverage against

inertia. Effective communication builds urgency and supports the organizational vision, as discussed above. But how can managers effectively communicate during a chaotic change process?

Much of today's management literature promotes open communications to create a sense of trust during the change process (Beckhard, 1992; Thornhill et al., 2000; Albrecht, et. al, eds., "Implementing", 2002; Jick, 2003). Being transparent and willing to listen to employees and involve them in the short-term successes (and failures) of the change tends to build trust and acceptance. Kotter (1996) agrees with this openness, adding that actions speak louder than words: "Nothing undermines the communication of a change vision more than behavior on the part of key players that seems inconsistent with the vision" (p. 97). Employee involvement and buy-in is the ultimate aim of such communications, which could serve to overcome organizational inertia and give people a stake in the change process.

Kotter also suggests methods of communicating the vision as a tool to involve and excite the organization's people.   He explains that firms have failed in their communications by not communicating the vision on a day-to-day basis. By using as many available channels of communication as possible, such as routine discussions, routine performance reviews, meetings, and memos, managers can repeat the message of change continually to ensure it reaches across the entire organization (p. 93). When this is done, Kotter explains, the change message has a better chance of being remembered, both intellectually and emotionally. Such communication can convey a permanence of the change program as well, helping to reduce inertia.

4.   Addressing Change Inertia

Having strong change drivers that communicate a clear vision on a daily basis, however, will not guarantee that an organization's people will buy into and collaborate in a change program. Managers must obtain this acceptance and support from both employees and managers before implementing any change program (Kotter 1996; Thornhill et al., 2000; Heller, 2002; Jick, 2003). Without this critical buy-in, change momentum can quickly dissipate.

Although multiple reasons exist for this resistance people often view change movements simply as threats. Paul Strebel expounds further on this point in his 1998

Harvard Business Review article "Why Do Employees Resist Change?" He suggests that the basis of this phenomenon lies in the formal, psychological, and social contracts that employees create with their organization. Three are particularly important: the established task and performance requirements; the unwritten mutual agreements; and the actual (versus espoused) beliefs and values (p. 141-145). When change comes along, these three contracts between employees (including middle managers) and the organization become threatened if they are not supported or renewed.

Central to employee and managerial inertia or resistance is the concept of control (Strebel, 1998; Thornhill et al., 2000; Heller, 2002). Managers and employees alike eventually become accustomed to certain standard operating procedures that establish a comfort zone in their work. This comfort zone is disrupted when change occurs and must be reestablished to give people a sense of control.

Heller (2002) explains further, stating that people, specifically managers, "prefer order and discipline to flux, and therefore seek to establish systems that provide predictability and control" (p. 277). This disparity, he continues, creates a continual tension between an organization and its chaotic, changing environment. Although senior DoD management has recently taken steps in overcoming this tension by championing change initiatives, employees cannot simply be directed to change. Transformational change interrupts their organizational norms, breaches their comfort zones, and threatens their job control.

Keeping in mind the nature of and reasons for change inertia, managers can understand that this opposition occurs throughout the change process. Some scholars argue, however, that it should be planned for early on. Jick, in his article "Implementing Change" (Jick and Peiperl, 2003), suggests that managers analyze their organization before even beginning a change process, systematically assessing the forces for and against change (p. 178). In so doing, managers fulfill Sun Tzu's edict, *Know your enemy; know yourself*: they gain an understanding of the support they have for their transformational plans and the natural resistance they will be facing. This does not, however, imply that the inertia should be looked upon as an enemy; rather, it is a natural equilibrium that every organization establishes with its people.

Kotter (1996) agrees with the advice to make a cautious and well-informed effort. He describes an organization's change inertia as *complacency* and discusses the concept of change process *urgency* (Nadler and Tushman, 1989; Kotter, 1996; Jick, 2003):

> By far the biggest mistake people make when trying to change organizations is to plunge ahead without establishing a high enough sense of urgency in fellow managers and employees. This error is fatal because transformations always fail to achieve their objectives when complacency levels are high (p. 4).

Instilling a sense of change urgency, he explains, aims at making the urgent need for change known throughout the organization. Nadler and Tushman (1989) further expound that such urgency only comes about when people realize that they will be facing actual pain (p. 199): pain that risks the well being of the establishment.

This sense of urgency, however, should be used carefully. It should not be confused with rushing an organization's change efforts. An incremental, results-based pace for change (discussed in the next section) aims at helping the transformation proceed in a controlled manner. A sense of urgency, on the other hand, seeks to instill buy-in and support. Further, as Jick (2003) explains, building this sense of urgency should not appear as if management is *crying wolf* (p. 179). This could then raise cynicism within the firm and risk the entrenchment of resistance to the change movement.

The sense of urgency should also consider the long-term presence of change inertia. As Kotter (1996) suggests, several transformational efforts have failed because management declared victory too soon in the process (p. 12). Kotter explains that these firms did not understand that, once a transformation begins, inertia never really goes away; rather, the former equilibrium waits for any opportunity to correct itself. Managers must thus recognize the resilience of change inertia and realize that fighting it is a long-term battle. Furthermore, this shows that organizational transformation requires the long-term presence of change leadership.

Change managers, therefore, must not only attend to the equilibrium between the organization and its environment, but the equilibrium between the organization and its people. With this consideration for employees, managers attempt to align people with the organization and the environment. This concept is illustrated in Figure 3.
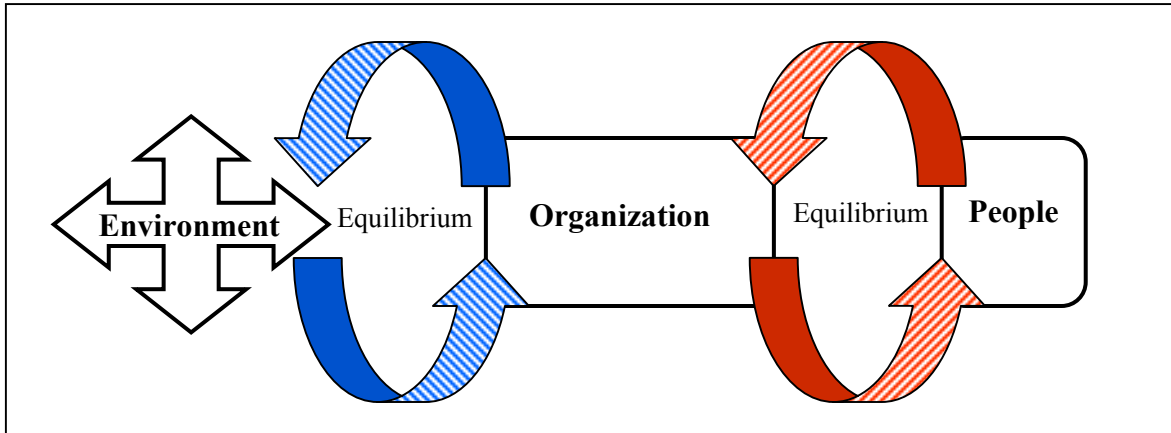
Figure 3.   Equilibrium Concerns For Change Managers [From: Thesis Author]

5.   Creating a Learning Organization through Short-Term Results

Several examples in today's change management literature direct managers to seek organizational change and improvement based on incremental results (Nadler and Tushman, 1989; Beer, Eisenstat, and Spector, 1990; Beckhard, 1992; Kotter, 1996; Schaffer and Thomson, 1998; Thornhill et al., 2000; Albrecht, et. al, eds., "Implementing", 2002; Amis, Slack, and Hinings, 2004). This reveals a movement away from what Schaffer and Thomson (1998) call "activity centered programs" (p. 191) and what Kellaway (2002) terms "management fads" (p. 175). Such programs aim to produce organizational transformation through a fundamental change in managerial philosophy and/or in organizational culture. An example of these activity-based programs, Total Quality Management (TQM), became fervently followed throughout the 1980s and early 1990s by both public and private institutions. These programs have been gradually abandoned as organizations increasingly discovered that they produced more bureaucracy and employee complaints than tangible improvement (Kellaway, 2002: p. 175).

Improvements centered on short-term results, on the other hand, drive toward the heart of the change process: the system's outputs and outcomes. As described by the basic open-system organizational model, the conversion of inputs to outputs provides the basis for the firm's existence, thus placing a fundamental importance on organizational results. By focusing on outputs and outcomes rather than on activities during a transformation, shipyard managers can thus gain the benefit of immediate feedback on

the change process itself. Such feedback can serve several purposes. Schaffer and Thomson (1998) explain that by seeking short-term results, managers can quickly and accurately assess the impact of their actions, eliminate activities that do not contribute to the change process, and create a learning process that builds on each incremental success (pp. 201-205). This continuous feedback process thus affords a learning organization the flexibility needed to adapt throughout its transformation efforts.

Kotter (1996) adds a human resource approach to this rationale, reasoning that such incremental results provide employees with opportunities to briefly celebrate during the difficult change process, help the change program win essential support from additional employees and managers, and show employees the benefits of their sacrifices (pp. 122-124). Amis, Slack, and Hinings, in their article "The Pace, Sequence, and Linearity of Radical Change" (2004), agree:

> The organizations that we studied that completed programs of radical organizational change were characterized by initial bursts of change activity followed by relatively sedate progress toward the desired endpoint. This process allowed opportunities for trust to be established and productive working relationships to be developed (p. 35).

Success in a change program, then, relies on quick and decisive initial actions that create a sense of urgency. Using the immediate feedback of incremental success and managing for results, management can establish a sufficient pace for change that not only keeps employees aligned with the change vision but re-establishes employee relationships.

Schaffer and Thomson (1998) suggest another specific benefit of results-driven programs: they prioritize improvements (p. 204). Faced with a large set of possible changes, management must keep in mind which improvements should come first. Amis, Slack, and Hinings (2004) broaden the analysis of this argument:

> What is important is the *sequence* in which organization elements are altered. Our research clearly shows the importance of changing high-impact decision-making elements early in a transition process. Thus, even though change may progress at a slower pace after the initial generation of momentum, the early alteration to high-impact elements sends a clear message that the changes being implemented will be substantive and enduring (p. 35).

Short-term results thus help to provide the speed, prioritization, and communication of change. In so doing, results-driven programs provide a structure and a plan for implementing transformational change.

Managing for results, however, does not come without its downfalls. Jick and Peiperl (2003) warn that making decisions based on numerical goals and results can cause employees to ignore quality, leading to transformational disaster (p. 164). Collins and Porras (1998) agree, stating: "When people in great organizations talk about their achievements, they say very little about earnings per share" (p. 34). Thus, although incremental results provide the feedback and flexibility necessary to create adaptive plans, shipyard managers must remember the higher-level goal and the reasons for change. This reasoning suggests the importance of a clear system direction and an appropriate communication structure, as discussed above.

6.   Rewarding Change Behavior

When all is said and done, when managers have created a clear and communicable vision, obtained a leadership coalition, communicated the system direction throughout the organization, made considerations for change inertia, and produced an incremental results-oriented plan, all efforts will have been wasted if these managers do not consider the long-term implications of change on an establishment's culture (Nadler and Tushman, 1989; Beer, Eisenstat, and Spector, 1990; Kotter, 1996; Heller, 2002; Albrecht, et. al, eds., "Implementing", 2002; Jick, 2003). As explained by the OSF, although management cannot create it, organizational culture can be affected by the organization's direction and design factors. Keeping this in mind, each of the above sources emphasizes the importance of culture as the foundation for the future of a given transformation.

Kotter (1996) provides an observation that explains why cultural change should emerge only in the latter part of a change process: previous efforts to root change into culture have failed because they first of all attempted to change culture and secondly attempted to do so at the outset of a transformational program (p. 155). He explains further:

> Culture is not something that you manipulate easily. Attempts to grab it
> and twist it into a new shape never work because you can't grab it.

Culture changes only after you have successfully altered people's actions, after the new behavior produces some group benefit for a period of time, and after people see the connection between the new actions and the performance improvement (p. 156).

Here Kotter reinforces the OSF's notion that culture cannot be designed and that it emerges from and can only be affected by upstream changes. Further, Kotter ties together the importance of short-term results, communicating a clear vision, and overcoming change inertia as steps toward altering cultural norms. Culture most certainly should be considered early on through the analysis of change inertia. However, institutionalizing change through the business's culture should not be the end-all focus; instead, it should emerge from the change process.

To institutionalize change, managers can employ several different methods. Jick (2003) suggests that in order to instill change in organizational culture, management must meet three tenets: (a) prove managerial commitment to change; (b) reward appropriate change activities, and; (c) draw the desired behavior into everyday life for employees (p. 183). He then offers that rather than looking at institutionalizing change, managers should look to institutionalizing the *journey* (p. 183), thus making the change processes themselves a part of an evolving and on-going process.

Albrecht, et. al (eds., "Implementing", 2002) place emphasis on the learning aspect of an organization. They recommend that management: (a) integrate the learning process into training programs; (b) make efforts to prevent learning from becoming a chore; (c) monitor progress and take any corrective action quickly, and; (d) be open to employees about failure (p. 505). Each of these steps further suggests the importance of managing the future of a change program by permeating cultural norms. The change process itself, then, must be managed just as any other project or program.

7.   **Summary**

Table 1 summarizes the six recurring success factors found in the research of change management literature. While these six common guidelines do not provide an exhaustive checklist for successfully implementing the mission-funded Navy shipyard, they do, however, give these managers a structured methodology for beginning the change process. These principles aim at giving shipyard managers a better understanding

of the long and difficult task that they now face, or will face in the coming years. Applications of these principles to shipyard managers and their organizations will be discussed in Chapter IV.

Create a Clear Vision Statement	Strive for a single interpretation of a concise, simple, yet graphic vision statement, specifying areas for change and communicating reasons for change.
Amass a Leadership Core	Even the most inspirational and energetic leaders need a leadership core to drive change during a transformation.
Communicate on Multiple Levels	Actions visibly communicate management position on change; take every opportunity to communicate the change on a daily basis.
Address Change Inertia	Understand change inertia: employees have implicit contracts tying them to norms and comfort zones. Instill a sense of urgency and remember that transformational change is long-term.
Control pace with Short-term Results	Control the pace of change, create flexibility and learning, win employee support, and prioritize change through the immediate feedback of short-term results.
Reward Change Behavior	Cultural change can only emerge from a change process. Reward appropriate change activities and institutionalize the process of change in order to affect the organization's culture.

Table 1.   Summary of Six Recurring Change Management Principles.

E.   CHAPTER SUMMARY

The open system model of organizational theory, specifically the Organizational System's Framework, provides a method for analyzing the complex shipyard organization. By examining the interrelationships between important elements of the OSF, we can better frame the chaotic process of change as the shipyards undergo the shift in financial management structure and also gain a better understanding of the ripple effects of this corrective intervention. This analysis is conducted in Chapter IV. We can then attempt to apply the six recurring factors for transformational success in the private sector to the shipyards.   With the ultimate aim of providing improvements for implementing the mission-funded naval shipyard, the following chapter presents the case study for analysis: the Puget Sound Naval Shipyard.

III. CASE STUDY

This chapter presents a case study in change management at a naval shipyard that resulted from a corrective intervention in its financial management structure. The case will be analyzed in Chapter IV, applying the principles outlined in Chapter II. As the most recent example of shipyard transformation under the Navy's changing environment, Puget Sound Naval Shipyard will be the focal point of discussion; it presents a unique and current look at the implementation of the mission-funded naval shipyard.

The chapter first explains the different ways the Navy conducts maintenance on its ships and submarines and the basic principles of how it funds that maintenance. It then traces the environmental trends that triggered the most recent change in the Navy's maintenance philosophy and describes the changes that took place. Finally, it presents the shipyard's current challenges in implementing a dramatic transformation program and employee reactions to the change.

A. NAVY MAINTENANCE AND FUNDING PROCESSES

The Navy performs maintenance on its vessels on three basic levels: organizational, intermediate, and depot level. Organizational level maintenance, as its name implies, can be performed by a ship's own personnel, whether at sea or in port. Examples of such maintenance are periodic preventative maintenance such as the cleaning of filters or inspection of equipment. Beyond the level of maintenance that ship's personnel can support is intermediate level (I-level) maintenance, typically performed by a shore facility such as an Intermediate Maintenance Facility (IMF) or a Shore Intermediate Maintenance Activity (SIMA). I-level maintenance normally involves relatively quick turnaround times of less than one month. Depot level (D-level) maintenance, on the other hand, normally takes several months, requiring capabilities or facilities beyond organizational and I-level maintenance. It is typically performed by naval and private shipyards and can involve installing approved alterations and modifications "which update and improve the ship's military and technical capabilities" (OPNAV Instruction 4700.7K, Maintenance Policy for U.S. Navy Ships, 2003).

A simplifying analogy that helps describe these processes is that of maintenance on a car. Organizational maintenance, as related to your motor vehicle, would involve checking and adjusting the tire pressure or the oil level in the engine, something most people do by themselves. I-level maintenance would involve adjustments normally performed by a mechanic at a garage, such as tire rotation and brake replacement. D-level maintenance, then, would be like replacing an entire engine, taking significantly more time and labor at the garage. This range of maintenance actions illustrates the Navy's three levels of ship and submarine maintenance. As discussed later in this chapter, the unique nature of these three functional levels presents one of the catalysts for change at the Puget Sound Naval Shipyard.

To finance these maintenance activities, the Navy uses three funding methods: the Navy Working Capital Fund (WCF), mission funding (MF), and reimbursable funding. A WCF activity receives no appropriation of funds each year; rather, the customer reimburses all of its costs. It uses a revolving fund of working capital and replenishes that fund by billing its customers for the full cost of work performed. This funding methodology results in business-like practices and formal buyer-seller relationships. While the activity is run much like a business by tracking costs and allocating overhead across jobs, there is, however, no profit incentive. Furthermore, because the level of activity depends on the number of customer orders, there is an incentive to attract additional work to lower the per-unit allocation of overhead. The bottom line objective, however, is to break even.

A mission-funded activity, on the other hand, receives an annual appropriation from Congress that limits the scope of work by fixing the amount of funds and the time period during which they can be used. Strict statutory sanctions prohibit violating those terms. The work done by the activity is at the discretion of the activity head, so long as it conforms to the defined purpose of the appropriation. This funding method thus does not involve a buyer-seller relationship. Compared to the WCF, it is less business-like and more government-like: it creates a benefactor-beneficiary relationship. Given a fixed amount of money, a mission-funded activity's incentives are to improve efficiency and to effectively prioritize work to maximize the value of the funds.

Finally, under reimbursable funding, a customer (the Fleet, as an example) reimburses a provider (such as a shipyard) for services or goods that it provides. This is the means through which the WCF activity receives its funding: all revenue for the WCF activity comes by way of reimbursable orders (sometimes simply referred to as *reimbursables*). The Fleet pays for repairs and maintenance with funds that are allocated for such reimbursable transactions. Under the WCF, the work is priced so that all costs are recovered: direct, indirect, and overhead. On the other hand, when a MF activity performs maintenance for the Fleet, the Fleet presumably receives less of an allocation of funds since the shipyard receives its own appropriated budget. Those funds that would have been provided to the Fleet to pay for maintenance under the WCF structure are instead given to the shipyard. The shipyard thus performs the maintenance on behalf of the Fleet.

If it has sufficient capacity, however, the MF shipyard may also accept reimbursable work from other customers, although it cannot accept reimbursable funds from its primary customer. Congress, through its limiting appropriations, has established an upper limit on the scope of such operations. For example, a Pacific Fleet shipyard that is mission-funded to perform maintenance on Pacific Fleet ships is limited in the volume of work for those ships by the amount of funds in the appropriation, but it could accept work from the Atlantic Fleet on a reimbursable basis. When this happens, since the MF shipyard's overhead is already paid for through the congressional appropriation, the shipyard may only be reimbursed for the direct and indirect costs (but not overhead) associated with each individual customer order.

Given this baseline examination of Navy maintenance and funding processes, the chapter will now trace the environmental trends that led to the fundamental change in financial management at the Puget Sound Naval Shipyard.

B.   THE MISSION-FUNDED PUGET SOUND NAVAL SHIPYARD

In order to describe the change in financial management at Puget Sound Naval Shipyard in a logical manner, this section will first present a historical view of the environmental trends and mandates that resulted in change at PSNS. It will then describe the two design factor changes that the shipyard has been mandated to implement:

structural change and financial management change. Due to the effect of structural changes on management's change implementation program, this design factor change will be discussed along with the financial management shift to mission funding.

1.   Environmental Trends and Mandates

A series of political, economic, social, and technological trends brought about the drastic change in Puget Sound Naval Shipyard's financial structure. Some of these trends aimed at increased budgetary efficiency; others sought improved operational effectiveness. Although these two concepts are paradoxical, they would soon merge with the naval shipyards at their intersection.

a.   *Efficiency and Effectiveness*

On June 30, 1990, the Deputy Secretary of Defense issued the memorandum "Strengthening Depot Maintenance Activities" requiring increased savings and efficiencies in defense D-level maintenance (Bachmann, 1995). In line with federal financial reform legislation such as the Gramm-Rudman-Hollings Acts of 1985 and 1987 and the 1990 Chief Financial Officer's Act, this directive also established the Defense Depot Maintenance Council (DDMC) to develop strategies for cost reductions. Five months later, Defense Management Report Decision (DMRD) 908 directed across-the-board cuts in defense spending and established a target of $3.9 billion in savings by Fiscal Year 1995 (*U.S. Office of Technology Assessment*, 1992). Shortly afterward, in December of 1991, the DDMC developed a Corporate Business Plan for Fiscal Years 1991-1995 that described actions for achieving this target, including depot consolidation and closures aimed at reducing costs through economies of scale (Ibid).

Defense depot maintenance thus became a target for obtaining financial efficiencies. Transformation and shifting away from an old equilibrium was the key, and both the Deputy Secretary's memorandum and DMRD 908 served as part of the financial catalyst for the consolidation of the naval shipyards. Budgetary efficiency, however, would not become the only reason for maintenance consolidations.

The end of the Cold War era resulted in another environmental catalyst for shipyard transformation. The 1989 collapse of Communism in Eastern and Central Europe and the fall of the Soviet Union in 1991 led to a shift in U.S. defense focus from a single known adversary to a theatre of multiple, regional threats. This change in the

world environment resulted in the 1993 DoD Bottom-Up Review, which consisted of a steering group chaired by the Under Secretary of Defense for Acquisition and consisting of representatives from OSD, the Joint Staff, and the Services (Bachmann, 1995). This review analyzed the post-Cold War defense environment. The panel recommended maintaining a defense force structure with the ability to respond to two near-simultaneous Major Regional Conflicts (Ibid). Such a scenario, then, would require a ready and flexible maintenance capability to support mission effectiveness.

b. The CNO Mandate

With growing emphasis on financial efficiency and the redefinition of mission effectiveness, the Chief of Naval Operations introduced the Regional Maintenance Plan (RMP) in March of 1994. This CNO mandate for the naval shipyards, implemented as the Regional Maintenance Program, aimed at streamlining the Navy's maintenance processes through the consolidation of facilities into Regional Maintenance Centers (RMCs). The goals of this plan were to (a) reduce excess infrastructure, (b) improve maintenance processes, (c) combine supply and maintenance functions, and (d) create compatible information technology systems across all three levels of maintenance (GAO/NSIAD-98-4, 1997). The RMP sought to meet these goals through three phases:

Phase 1 – Minimize redundancy across I-level maintenance and create Regional Repair Centers

Phase 2 – Integrate all I- and D-level activities, creating Regional Maintenance Centers to service major regions of the United States

Phase 3 – Create a single maintenance process to conduct all Fleet maintenance (Ibid)

In August of 1995, the Pearl Harbor Shore Intermediate Maintenance Activity (SIMA) and the Submarine Base Pearl Harbor Intermediate Maintenance Activity consolidated under the RMP's Phase 1 (Nazario, 1995). The resultant activity, the Pearl Harbor Naval Intermediate Maintenance Facility (NAVIMFAC or IMF), became the first command to consolidate ship and submarine I-level maintenance facilities, hiring close to 600 personnel who were separating from PHNSY (Consolidation Manager A Interview, 2004). As Phase 1 continued with I-level consolidations in Bangor, Washington, the Navy made preparations for the next phase of the RMP. To

show that a single maintenance activity could successfully support the full spectrum of work between I- and D-level maintenance in a region, the Navy began the Pearl Harbor Naval Shipyard pilot program.

c. *The Pearl Harbor Naval Shipyard Pilot Program*

On 30 April 1998, PHNSY consolidated with NAVIMFAC, Pearl Harbor, standing up the Pearl Harbor Naval Shipyard and Intermediate Maintenance Facility (PHNSY&IMF) in a two-year pilot program. The pilot's Concept of Operations (CONOPS) established Commander, Pacific Fleet (COMPACFLT) as PHNSY&IMF's major claimant (GAO/NSIAD-99-199, 1999), making the Fleet the shipyard's primary customer and source of funds. The CONOPS retained Commander, Naval Sea Systems Command (COMNAVSEA) as the operating agent and technical authority (Ibid), preserving NAVSEA responsibility and management over the shipyard's operations. This CONOPS structure, coupled by the subsequent change in financial management (discussed below), would give the Fleet greater control over shipyard operations.

Prior to the consolidation, the Navy recognized that differing organizational and funding structures between the PHNSY (under the WCF) and the IMF (mission-funded) would hinder the combined activity's ability to share resources and workloads. Further, to create a single maintenance process under the RMP, it would need to create a single IT system for all three levels of maintenance. It thus decided upon a single financial structure and opted to use MF over WCF. The Navy argued that MF would better facilitate reaching the goals of the pilot by allowing for better workforce flexibility and infrastructure streamlining (Ibid). Because the mission-funded workforce would be budgeted for at the beginning of a fiscal year (rather than labor charges being adjusted with each incremental job under WCF), the Navy would gain the ability to assign work to emergent needs. This control, along with centrally funding all facilities, would then allow for better resource sharing, thus streamlining infrastructure. Additionally, the change to MF would presumably instill a higher level of financial discipline through a fiscally restrained budget.

The proposed change in financial management under the Pearl Harbor pilot sparked a sharp and ongoing debate among and within Congress, OSD, and the Navy over which system was more appropriate for the consolidated activity (Ibid; GAO-

01-19, 2001; Senate Armed Services Committee Report, 2003; Navy *Report on Study of Lessons Learned*, 2003; Harrell Phone Conversation, 2004). Proponents of the MF structure saw the benefits to mission effectiveness arising from the centralized funding structure and praised working under constrained resources as fiscally efficient. Opponents to the change claimed that moving away from the WCF would significantly remove the business-like benefits of cost visibility and total cost recovery. Additionally, as the General Accounting Office (GAO) would later write, some thought that the Navy was simply trying to avoid bearing a greater share costs under the WCF based on paying for a share of the maintenance activity's overhead (GAO/NSIAD-99-199, 1999).

Nonetheless, given the CNO's RMP mandate for regionalization, the Navy pressed on with the Pearl Harbor pilot under the MF structure. The CNO approved the consolidation in August of 1997, but by December, the Deputy Secretary of Defense issued Program Budget Decision Number 404 requiring the Navy to develop test plan metrics for measuring the pilot's benefits (Ibid). So, in April of 1998, the Navy issued a draft of the Pearl Harbor test plan, providing five metrics[1], and by the end of the month the consolidation took place. Less than two months later, however, the usefulness of these metrics came into question under the DoD Assistant Inspector General, subjecting the test plan to numerous revisions and additions (Ibid). Finally, nearly five months after the consolidation took place, the Under Secretary of Defense (Comptroller) approved the Pearl Harbor pilot plan under nine new metrics[2] and PHNSY became mission-funded under the pilot (Ibid).

In September of 1999, however, the pilot's results came under scrutiny when the General Accounting Office (GAO) submitted to Congress its *Status of the Navy's Pearl Harbor Pilot Project*. This report stated that data had been gathered for only five of the nine metrics, that of these five only two showed preliminary results that met or exceeded expectations, that two fell slightly short of expectations, and that one

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[1] These five metrics measured cost per unit output, production efficiency and resource utilization, material readiness of PACFLT ships, customer satisfaction, and quality (GAO/NSIAD-99-199, 1999).

[2] The approved metrics were (1) Total cost of a production shop, in direct labor hours (DLH) of work delivered to the customer, (2) Total available labor hours expended to deliver a production shop, in DLH to the customer, (3) Total Current Ship Maintenance Program (CSMP) work items completed during the fiscal year, (4) Total CSMP work items in backlog, (5) Schedule adherence of CNO maintenance projects, (6) Rework index for CNO maintenance projects (labor hours to correct deficiencies over total DLH), (7) Activity work schedule integrity index (scheduled labor days over actual), (8) Casualty Reports caused by activity work, and (9) Earned value, involving statistical analysis (Ibid).

metric indicated no improvement.[3]   While it recognized that the pilot was not yet complete, the GAO recommended that steps be taken to address these issues.

The Navy responded in May of 2000, submitting a report to Congress showing that four of the nine metrics had met expectations, three had maintained results, and two were inconclusive with corrective actions being taken. Aside from the metrics, the Navy wrote that the Pearl Harbor pilot had achieved the goals of the RMP, allowing PHNSY&IMF to complete Fleet priority work with a minimized workforce. In addition to these benefits, the Navy reported that it had met or exceeded expectations, improving workforce flexibility and customer satisfaction and reducing the maintenance infrastructure (U.S. Navy *Report to Congress*, 2000).

Given this assessment of the Pearl Harbor pilot program and the standing CNO directive, the Navy then began to lay the groundwork for consolidation at PSNS. By February of 2000, it set up the Northwest Maintenance Integration Oversight Team (MIOT), which consisted of four two-star admirals and three Senior Executive Service (SES) civilians (Consolidation Manager A Interview, 2004). The MIOT would provide oversight and guidance during the planning and implementation phases of the PSNS pilot, as well as the first full year of operation (Ibid).

Despite this early preparation, when the Navy submitted its budget for Fiscal Year 2001 with Puget Sound under a MF structure, OSD provided marks that denied the transition. After significant time in the reclama process[4] and high-level discussions between the Secretary of the Navy and the Secretary of Defense, a joint Navy and OSD team was formed to study the cost and benefits of the transition (Harrell, 2004). In the end, however, the issue remained at a stalemate: the Puget Sound pilot would not yet be implemented.

By January 2001, the GAO revisited the issue of Pearl Harbor metrics, submitting its report, *Key Financial Issues for Consolidations at Pearl Harbor and Elsewhere Are Still Unresolved*. In this report, the GAO concluded that the workers and

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[3] Metrics (2) and (5) improved, meeting or exceeding expectations; metrics (1) and (4) fell short; metric (3) showed no improvement. Metric (6) required more time to develop data, and metrics (7) through (9) showed inconclusive results because the Navy did not plan to gather the required data (GAO/NSIAD-99-199, 1999).

[4] A reclama is a formal appeal to a service comptroller or OSD marks, which are tentative budget decisions (AT&L Knowledge Sharing System, 2004).

facilities at Pearl Harbor were being used more effectively but that the pilot's nine metrics "provide an inconclusive picture of its overall accomplishments in achieving greater efficiencies and lowering ship maintenance costs" (GAO-01-19, 2001). Before the Navy issued a response to this report, however, the events of September 11th, 2001 would soon shock the world and alter the face of U.S. Defense, temporarily putting the issue of metrics on hold.

d. *Additional Environmental Trends*

While the end of the Cold War signaled a change in the Navy's strategic outlook on maintenance, September 11th, 2001 helped to solidify that change. It also supported the service's argument for consolidating maintenance facilities under the mission funding structure. With declaration of the Global War on Terror (GWOT) following this event, the DoD faced a prolonged conflict spread across the globe. By giving greater control over maintenance workflows to the Fleet, then, the Navy could better meet the demands of the GWOT.

In addition to the GWOT, Operation Iraqi Freedom (OIF) further strengthened the Navy's argument for maintenance consolidation. As tensions over the Iraqi compliance with U.N. resolutions escalated by the end of 2002, the Navy continued to work toward further consolidations, and on January 7, 2003 it received authorization from OSD to proceed with an additional two-year consolidation pilot program on a MF basis. Program Budget Decision 700C gave this authorization, requiring the Navy to work with the Under Secretary of Defense (Comptroller) and the Under Secretary of Defense (Acquisition, Technology and Logistics) to develop pilot performance measures on retaining total cost visibility under MF (Harrell Phone Conversation, 2004). Since preparations had already begun at PSNS and because the Pearl Harbor pilot had already established a learning curve for COMPACFLT, the Navy chose Puget Sound to conduct the pilot (Ibid).

Leading up to the U.S. invasion of Iraq in March of 2003, the Navy soon found itself deploying over 70% of its ships and 50% of its submarines to meet the urgent need of naval forces overseas (NAVSEA "All Hands" Message, 2003). While the Navy's existing maintenance facilities were able to quickly deploy these ships and submarines, it came at a cost: together, the Atlantic and Pacific Fleets spent

approximately $2 Billion in Fiscal Year 2003 Supplemental ship maintenance funding associated with the cost of war (Public Law 108-11, 2003).

The Global War on Terror and Operation Iraqi Freedom thus created a trend that would change the Navy's internal technology. Fighting a prolonged war on all fronts and facing rapidly escalating conflicts, the Navy saw that it could not go on with business as usual: rapid responsiveness became a critical capability that aimed at increasing the Navy's effectiveness. This need to surge deploy the Fleet would soon alter the Navy's strategy, providing further evidence for its argument to implement a mission-funded shipyard.

e. The NAVSEA Mandate

In his *Guidance for 2003*, the CNO established a Navy-wide vision for transformation. Subsequently, in March of 2003, the CNO released a message on creating a "culture of readiness" (Commander, Fleet Forces Command Norfolk, VA Naval Message, 231400Z May 03) that directed the development of deployment cycles that would improve the responsiveness of the Fleet to project full combat power. Two months later, the Commander, U.S. Fleet Forces Command (CFFC) released a message outlining the Navy's Fleet Response Plan (FRP). This transformational strategy described steps to give Navy ships and aircraft the ability to surge deploy and meet operational requirements around the globe (Ibid). It would lay the foundation for changes not only in operations but also in support functions such as maintenance.

The NAVSEA Guidance for Strategy 2003, following the CNO guidance, introduced maintenance initiatives to support the Navy's transformation (NSY 100 Day Transformation Team, 2003). In particular, NAVSEA's *One Shipyard* initiative mandated the shipyards to adopt the Regional Maintenance Plan's concept of creating a single maintenance process, extending the idea to include partnerships with private industry shipyards. The aim of the initiative was to provide a single theoretical provider for the Fleet, giving Navy maintenance the ability to meet emergent needs (Sherman, 2003).

2. PSNS Design Changes

With evidence of a clearly different world environment, mandates from the CNO and NAVSEA, and authorization from OSD, the Puget Sound Naval Shipyard pilot

program would begin after almost three years of being put on hold. Just as it did at the Pearl Harbor shipyard, the Navy directed two major design changes for PSNS: structural consolidations and the financial management shift to mission funding. On May 15, 2003, Puget Sound Naval Shipyard and Intermediate Maintenance Facility (PSNS&IMF) would be created, consolidating D-level facilities at the shipyard with I-level facilities at the IMF. Secondly, less than five months later on October 1, 2003, PSNS would change its financial management system from WCF to MF (COMPACFLT/COMNAVSEA Joint Letter, 2003). On that same day, Vice Admiral Balisle, COMNAVSEA, signed a directive that added more organizations to this major consolidation, further altering the PSNS structure: Supervisor of Shipbuilding, Conversion, and Repair, Puget Sound (SUPSHIP)[5], Fleet Technical Support Center, Pacific Detachment Everett (FTSCPAC Det Everett), and portions of Commander, Naval Surface Group Pacific Northwest (CNSGPNW) N43 Maintenance Staff (Orzalli Interview, 2004). In total, the consolidated activity would amass a total of over 10,000 personnel by May 20, 2004 (Ibid).

a. Structural Change

While it was the second naval shipyard to merge with nearby intermediate maintenance facilities, PSNS would be the first of its kind based on the size and scope of its consolidation. By increasing its manning to close to 10,000 civilians and military personnel, PSNS would undertake a consolidation well beyond the size of the Pearl Harbor consolidated activity, which currently stands at approximately 4,400 people (*Depot Profiles*, JDMAG Website, 2004).

Early in the planning stages, in August of 1999, the shipyard adapted a CONOPS similar to that of the Pearl Harbor pilot: PSNS&IMF would be organizationally assigned to COMPACFLT as its primary customer and source of funds and would retain COMNAVSEA as overall manager of shipyard operations (COMPACFLT/ COMNAVSEA Joint Letter, 2003). Figure 4 depicts the structure of the PSNS&IMF consolidation, with the original organizations and their respective reporting seniors in dotted lines.

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[5] SUPSHIP, responsible for the procurement and administration of new construction and ship repair contracts with private sector shipyards in the Pacific Northwest, was the major part of this consolidation (NAVSEA Website, 2004).
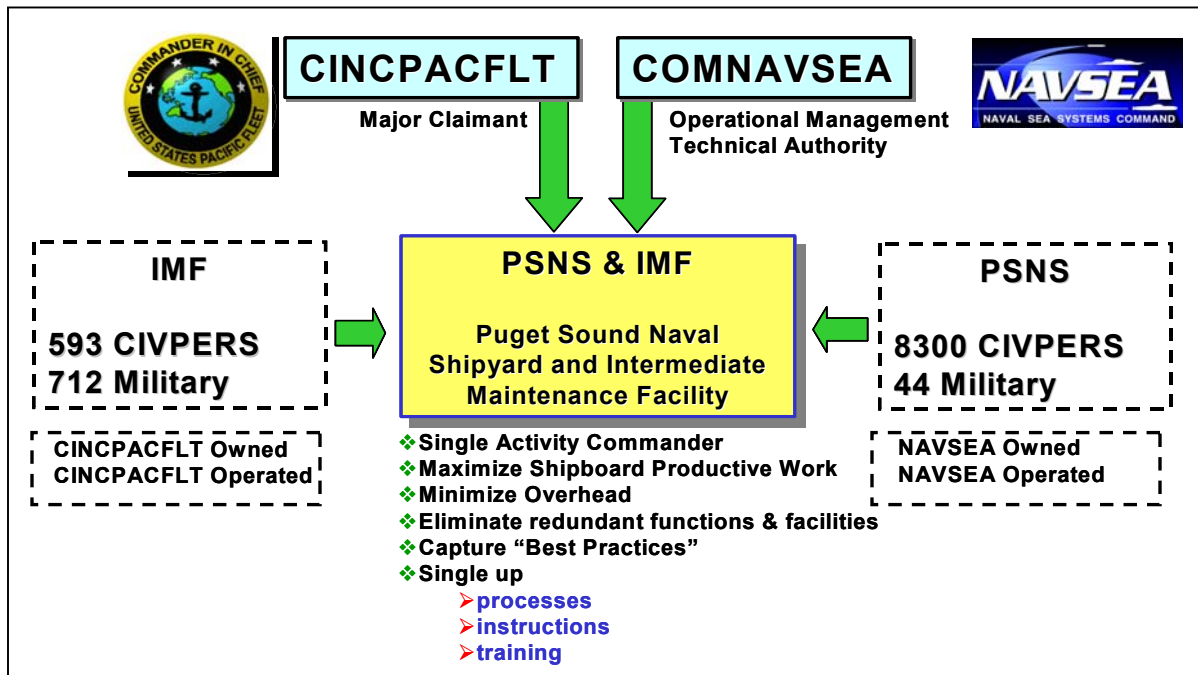
Figure 4.   PSNS&IMF Consolidation Structure [After: PSNS&IMF Comptroller
Mission Funding Presentation, 2003]

Before the consolidation, Puget Sound Naval Shipyard's primary mission
was to conduct D-level overhaul and repair on several different classes of Navy ships and
submarines (*Depot Profiles*, JDMAG Website, 2004). As shown in Figure 4 above,
civilian personnel formed an overwhelming majority of the workforce at 99.5%. These
personnel took on most of the tasks and jobs of the shipyard, from the shop floors all the
way up to senior levels, typically retiring with 30 to 40 years of service at the yard (NW
Regional Maintenance Coordinator letter, 2004). Navy enlisted Sailors did not directly
perform maintenance for PSNS, although a detachment of SIMA Everett worked within
the PSNS facilities (Ibid). Based on the complexity and wide range of the maintenance
performed at the shipyard, its turnaround time for ships and submarines depended on the
type of availability and ranged from nine months up to two years or more (Ibid). Figure 5
displays the former PSNS organizational structure.
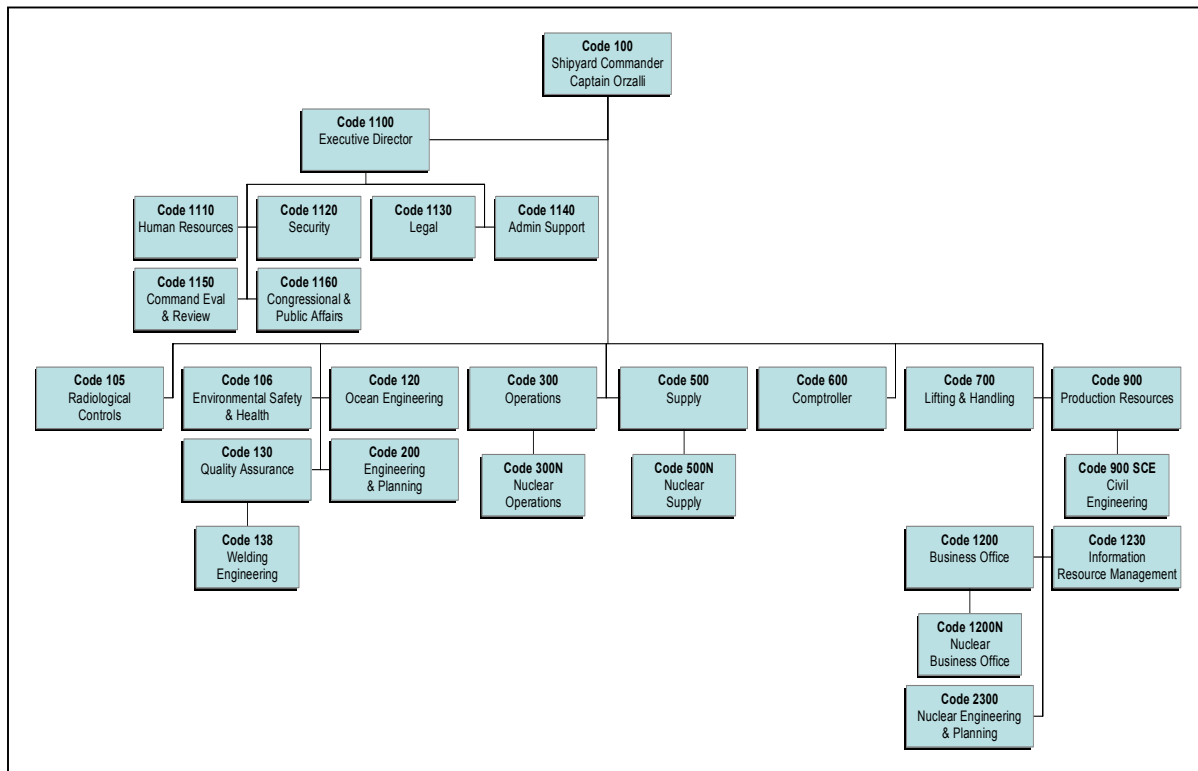
Figure 5.   PSNS Organizational Chart [After: PSNS&IMF Welcome Aboard Package, 2004]

The largest activity that merged with PSNS was the Naval Intermediate Maintenance Facility, Pacific Northwest (NAVIMFAC PACNORWEST).[6] This activity was created under Phase 1 of the RMP in 1998 from the consolidation of the Trident Refit Facility (TRF) in Bangor, Washington and the SIMAs in Everett and Bremerton (IMF Website Home Page, 2004).   The IMF's primary mission was to conduct maintenance on the West Coast Trident ballistic missile submarine fleet[7], producing an average 22-day turnaround for these submarines (Barge Interview, 2004). As Figure 5 shows above, it consisted of about 45.5% civilian workers, a considerably different makeup than PSNS. Here, unlike at PSNS, Sailors and civilian personnel worked closely together on specialized maintenance tasks specific to Trident submarines (Ibid). Having longer tenure than the military, the civilians typically had the same number of years of

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[6] In addition to the Bangor IMF, the consolidation included the Nuclear Regional Maintenance Department (NRMD) at Bangor, the NAVIMFAC Everett Detachment, the PSNS Engineering Library, and the PSNS Detachments in Boston, Massachusetts, and North Island, California (Commander, Puget Sound Naval Shipyard and Commanding Officer, Naval Intermediate Maintenance Facility, Pacific Northwest Joint Letter, 2003).

[7] This maintenance consisted of all shipboard maintenance other than on the Trident missiles themselves.

experience at the job as the people at PSNS (NW Regional Maintenance Coordinator letter, 2004). Figure 6 illustrates the former IMF's organizational structure.
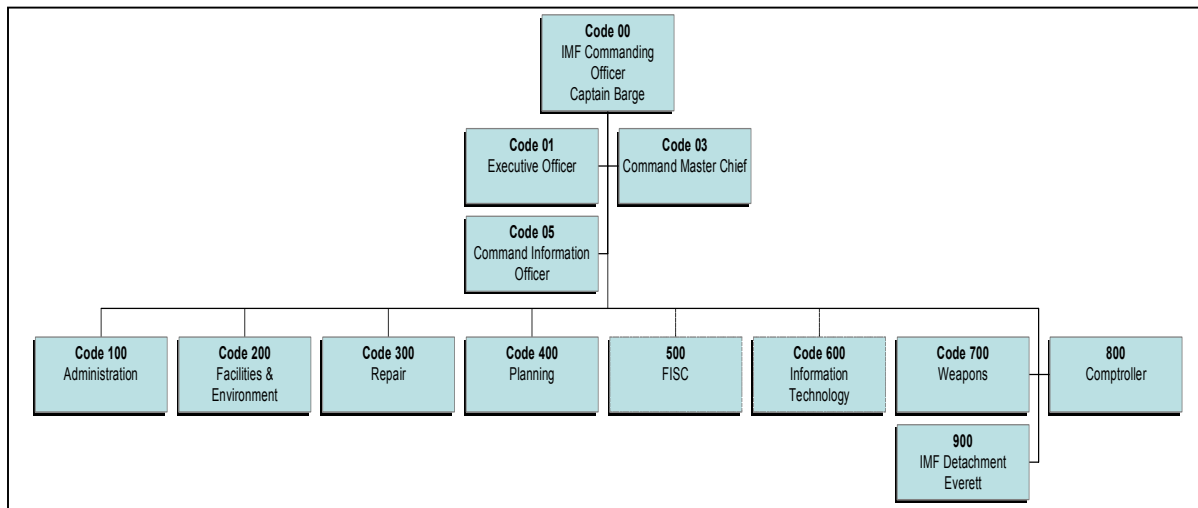
Figure 6.   IMF Organizational Chart [After: IMF Chief Information Officer, 2004]

Between PSNS and IMF, people's skills, abilities, and knowledge differed based on differences in workflows. At the shipyard, employees worked on multiple lines of long-term production spanning the entire spectrum of the Navy's ships and submarines (JDMAG Website, 2004). On the other hand, IMF employees worked on one specific product line with a relatively quick turnaround time: the Trident submarine. Further, based on the strategic nature of these assets, the schedule for maintenance was even more stringent.[8] This describes the high priority mission of getting Tridents fixed and out to sea on time to serve their strategic mission. As a result, this made employees at IMF more specialized in their tasks than those at PSNS. Workflows also differed based on differing planning systems and infrastructure.

Unlike the Pearl Harbor consolidated activity, which was able to fully integrate I-level and D-level facilities and systems (Barge Interview, 2004), PSNS&IMF would have two separate, major commands: the IMF CO retained command of his organization through the consolidation but would be subordinate to the shipyard commander (Commander, Puget Sound Naval Shipyard and Commanding Officer, Naval Intermediate Maintenance Facility, Pacific Northwest Joint Letter, 2003). This was necessary again due to the strategic nature of the IMF's primary mission of maintaining

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[8] Admiral Williams, Commander Submarine Group Nine (COMSUBGRU 9), reflected on this importance as maintaining the "Conveyor Belt of Tridents" (Barge Interview, 2004).

these submarines and getting their strategic payloads out to sea. Overall, these differences would cause issues that would have to be overcome in the consolidation and that would complicate the transition to mission funding. Figure 7 displays the organizational structure of PSNS&IMF based on the in-process consolidations, simplified due to complicated interrelationships contained within the integrated organization.
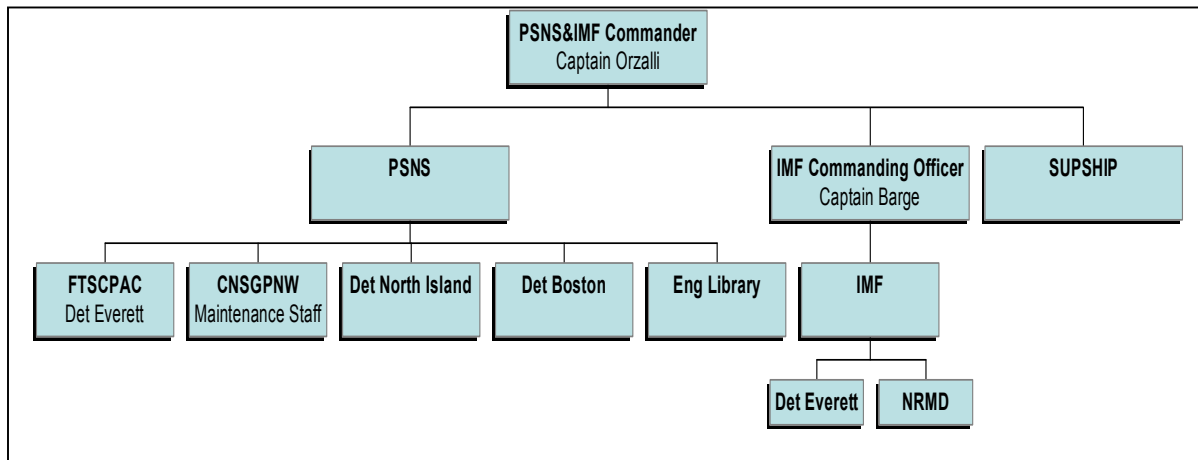
Figure 7.   PSNS&IMF Organizational Chart [After: Northwest Regional Maintenance Center Establishment Plan, 2004]

b.   *Financial Management Change*

The people of PSNS had a long history of working under a revolving fund such as the WCF, having used one form of the funding structure since the shipyard's establishment in 1891.[9] At IMF, on the other hand, maintenance activities had been mission-funded since its major parent organization, the TRF, was formed in July of 1981 (Barge Interview, 2004). The consolidation between PSNS and IMF, then, combined two organizations whose people differed in mindsets and expectations. Under the WCF, people understood that whatever work they performed would be funded by the customer. Under MF, people understood that, with limited funds, work had to be prioritized in order to utilize their scarce funds wisely. Further, each set of people worked under different, specialized financial and information systems (discussed below) that had developed over the years; systems that were tailored to each organization's work process flows.

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[9] The Navy Working Capital Fund (NWCF) is one of five separate funds that make up the Defense Working Capital Fund (DWCF), which also includes the Army, Air Force, Defense-Wide, and Defense Commissary WCFs. The DWCF, with Defense Commissary added in 1999, was borne of the Defense Business Operations Fund (DBOF) in 1996, which was a merger of individual revolving industrial and stock funds used prior to 1991 (Candreva, 2003).

Altogether, these differences would describe the changes that personnel at PSNS would have to make in their transition to mission funding.

The Puget Sound pilot differed significantly from the Pearl Harbor pilot in the amount of WCF projects that were carried over from before the transition to MF. (These projects were works in progress that began under the WCF and that were being carried over into the MF structure until completion.) Compared to the one carryover ship availability at Pearl, PSNS&IMF had eight. With approximately 70% of its work being WCF reimbursable (compared to the approximate 20% at Pearl), PSNS faced a major challenge based on the differing information systems between WCF and MF (PSNS&IMF Comptroller Interview B, 2004). This major difference complicated the workflows of PSNS.

Captain John Orzalli, PSNS&IMF commander, explained in a May 6, 2004 interview this workload as one of the major learning experiences for the shipyard in its transition to mission funding:

> This first year, because we had so many Working Capital Fund carryover projects, we're working to multiple sets of rules all at the same time and it makes it very difficult to try to figure out the impact of changing to mission funding, as well as how viable it is as a long-term funding strategy. (Orzalli Interview, 2004)[10]

This complexity not only challenged upper PSNS management but made workflows in the comptroller office (Code 600 at PSNS) especially difficult. As discussed previously, one of the characteristics of the WCF is its high cost visibility. To provide this detailed tracking of costs, the WCF shipyard used a legacy program called the Cost Application Database (COST), a proprietary and labor-intensive accounting system (Anonymous A Interview, 2004). On the other hand, mission-funded government activities used the Standard Accounting and Reporting System, Field Level (STARS-FL) system. Given the large amount of carryover projects at PSNS and the complexity of process patches between the COST and STARS-FL (Ibid), converting WCF accounts into a MF format (as discussed later in the chapter) would cause particular challenges.

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[10] All subsequent quotes from the shipyard commander come from this May 6 interview.

Another area of workflow complexity came from the differing maintenance planning systems used by PSNS and IMF. The shipyard used the Advanced Industrial Management (AIM) system to manage long-term shipyard availabilities. While it also used AIM Express for shorter availabilities, neither of these systems was compatible with the IMF's Logistics Data System (LDS), which was designed specifically for Trident refit planning and management (Orzalli, 2004). These fundamental differences in maintenance planning systems created more complexity for financial management flows as accounting personnel attempted to bridge gaps between AIM, LDS, COST, and STARS.

This incompatibility also presented issues for the PSNS&IMF comptroller, who worked to control the shipyard's rate of obligation.[11] The patchwork of fixes between the PSNS, IMF, WCF, and MF caused significant delays between commitment and expenditure. Providing an example, the comptroller stated that ordering material for a carryover WCF project produces a commitment of funds that must go through both COST and STARS-FL, and when coupled by procurement lead times, this could cause a delay anywhere from 14 to 20 months (Comptroller B, 2004).

The transition to MF also completely changed some of the shipyard's workflows. As discussed earlier, activities under the WCF have an incentive to attract additional work to lower the per-unit allocation of overhead, lower customer rates, and maintain high workforce utilization. In fact, WCF shipyards such as the former PSNS have created Process Shops to seek out extra work to this end. Under MF, however, PSNS&IMF now has a fixed yearly budget, so seeking out extra work makes no sense. Although doing so would lead to financial success under WCF, it could potentially lead to legal violations under MF by the Anti-Deficiency Act[12] (ADA).

With the end of this practice, workforce management also had to change. Under the WCF, the shipyard earned revenue by billing the customer for direct labor

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[11] Under the MF structure, appropriated funds go through a series of three stages: 1) *Commitment*, which is an administrative reservation of funds that carries no legal binding; 2) *Obligation*, the legal reservation of appropriated funds, which is analogous to a written check from your checkbook, and; 3) Expenditure, which liquidates the obligation and actually draws funds from the U.S. Treasury. The Office of Management and Budget (OMB) regulates the rate of spending by the executive departments and agencies through what are called *apportionments*. Activities funded by appropriations such as PSNS&IMF must, therefore, carefully control their rate of expenditures.

[12] Under the Anti-Deficiency Act (31 U.S.C. § 1341), an obligation cannot be made in advance of or over the amount provided for in a congressional appropriation

hours, creating an incentive for supervisors to keep their workers busy with billable tasks. This, then, created an incentive to attract additional work. While no consideration was made about the importance of this extra work under WCF, work under MF, on the other hand, had to be prioritized. Managers would no longer seek to keep workers busy with excess work, but they would employ what the PSNS comptroller has called *workforce reconstitution*: during periods of low productivity, employees must engage in training, proficiency work, or take leave (PSNS&IMF Comptroller Navy Working Capital Fund Presentation, 2004). Because the workforce would have already been paid for by the fiscal year appropriation, looking for work and keeping the workforce employed on additional jobs would only incur further obligations, potentially leading to an ADA violation.

Materiel purchasing practices also had to change. Under the WCF, a shipyard only charges costs when material is used. Given the flexibility of the revolving fund, material can be ordered via multiple paths to ensure availability and can either be accumulated as a ready reserve of inventory parts or simply be returned and not impact the financial position of the shipyard (Ibid). Under MF, however, funds are obligated once material is ordered, not when it is consumed. Ordering the same part through multiple paths, then, would accelerate the drain of funds and could also lead to an ADA violation.

The measure for financial success at PSNS would also change. Although both financial structures are constrained by budgets, the MF budget is a fixed amount while the WCF budget can expand and contract according to workload. This is because while the entire MF budget is fixed during the budgeting process, only the labor rate charged to customers is fixed in the WCF budget; the level of activity under WCF, then, can expand and contract during the year of execution. Lastly, where success under the WCF meant breaking even, under MF, PSNS would have to prioritize work in order for it to operate under constrained resources. This change in mindsets provided one of the major challenges in implementing mission funding at the naval shipyard.

C. IMPLEMENTATION OF MISSION FUNDING AT PSNS

With the change to mission funding, PSNS faced a strategic issue: How would it transition away from a form of funding it had been using for over a century? To answer this question, the shipyard commander would have to formulate his own strategy for change. The shipyard had received its mandates and the authorization for the transition; how exactly it was to implement its transformation rested in shipyard and IMF management's hands.

Leaving the details of the transition to the activity was completely consistent with military form: as the activity's comptroller aptly put it, "we [the military] salute smartly and we understand what our bosses want" (PSNS&IMF Comptroller Interview A, 2004). Further, given the vast organizational differences between the consolidations at Puget Sound and Pearl Harbor, no single manual or procedure could provide the steps required to perform the transition. With Pearl Harbor undergoing the Navy's first such pilot under the RMP, the shipyard commander looked to learn from PHNSY.

1. Shipyard Commander Strategy

The shipyard commander immediately set out to implement change in a deliberate and gradual manner when he took command in September of 2002. He had learned of transitional chaos at Pearl Harbor that came from its attempt to merge all of its shops and codes immediately and concurrently. Given this, he turned his focus onto his people. The shipyard commander, in a May 6, 2004 interview, outlined his strategy:

> …the way that you implement change…the first thing you do is you identify where you're going, you make sure everyone knows where we're going, and where their piece fits in, how they are a part of this. You need to take behaviors that support the change and reinforce them, and then you have to constantly go back and look and make sure you're getting to where you want to go.

Even before the consolidation, the shipyard commander began a series of communications initiatives aimed at aligning the organization with the change. Looking to implement the changes slowly for employees, he employed media such as all-hands calls, the "Commander's Corner" in the shipyard's bi-weekly newsletter, videos shown in the maintenance shops, and even visiting shops and speaking during their regularly scheduled morning meetings. He also worked closely with his Congressional and Public

Affairs Officer (PAO) to create internal and external channels of communication through the PSNS&IMF Transformation Communication Plan. This plan outlined marketing strategies for the transformation, for both the consolidation and the shift to mission funding. In particular, it included letting the "work force know if things start to go south [sic] and what needs to be done" (PSNS&IMF Transformation Communication Plan, 2004). While working steadily and gradually toward complete consolidation, the shipyard commander continued to execute this communication plan in weekly meetings, monthly expanded-staff meetings, and during daily tours of different sections of the shipyard.

Through his personal addresses, Orzalli repeatedly talked of such overarching and external influences as Operation Iraqi Freedom and the Fleet Response Plan, linking those environmental demands to the *One Shipyard* initiative and talking of the need to transform the shipyard into a provider for the nation's needs. He communicated the various initiatives in place at the shipyard that would change work processes, particularly with the shift to MF and the consolidation of the various maintenance activities. He would then go further, tying the change to specific shipyard workers and maintenance projects (Orzalli, 2004). Breaking down the change to the individual employees in this way, the shipyard commander aimed at certain benefits:

> …when you get people excited about change, if you can demonstrate to the people that do the work the benefits to them, and get them on board, they will fuel [the change effort] and they will go faster than you are able to keep up.

The vision that the shipyard commander painted for his workforce was different from the shipyard's previously posted website statement:

> Our vision is to provide Navy-wide best-value services including small, individual jobs and complex maintenance/modernization packages. Partnered combinations of public, private, and military assets integrated to maximize available resources will accomplish these services (http://www.psns.navy.mil/).

The shipyard commander's vision of the people of PSNS working to meet the global needs of the Fleet was one wrought of the shipyard's mandates and environmental

trends. More specifically, it was created from the change in its customer focus that came with the shift to mission funding. The Fleet played a much bigger part in the shipyard's funding. Further, the shipyard no longer had the incentive to seek job orders from other customers. This, then, changed its focus and vision away from providing "Navy-wide best-value services."

The shipyard's goals consequently changed. No longer did management seek to accomplish as much work as it could to spread its overhead costs; rather, it looked to instill fiscal discipline throughout the organization given its constrained resources. Code 600 played a large role in accomplishing this goal. (This is discussed later in the chapter.)

The shipyard commander also took these communications personally, expressing concern over his people and the honesty of his message: "You can tell them anything, but if your actions don't reflect what you're telling them then you've actually done a disservice." With this sense of ownership over his people, Captain Orzalli also articulated that the most difficult thing he had to deal with in the transition was attempting to alleviate fear:

> Change. Everybody loves change, right? No. Change brings uncertainty…What does uncertainty do? It causes fear. So how do you alleviate that? How do you alleviate fear? You have to communicate. And when you think you're done communicating you have to communicate some more.

Despite his extensive communication program, the shipyard commander set out to implement the change with the understanding that his job would not end once the first fiscal year was completed: "Am I satisfied? I can never be satisfied. We have to keep moving. And…it will be through constantly working on it and never being satisfied that we [will go] where we need to go."

2. IMF Commanding Officer Strategy

The shipyard commander met several times a week with the IMF Commanding Officer (CO), Captain Barge. As commander of the IMF, Captain Barge had a vested interest in keeping the Trident Conveyor Belt moving. However, leading an organization

with a history of mission-funded maintenance, he brought different ideas to the table and contributed to a unified command philosophy. Sharing similar views about the transformation with the IMF CO explains:

> You can't tell an organization, 'Get more efficient!' without addressing fears of the people who are there, which is: 'Efficiency means fewer people, how are we going to do this? Are we going to do this through attrition? Are going to do it through a RIF?' …you have to know what that answer is. And it could be any of the above...That involves knowing what the strategy is and then communicating it (Barge Interview, 2004).[13]

The IMF CO put the same emphasis on communications as did the shipyard commander, focusing particularly on employee and management fear. His strategy for the change, though, was not only to educate his people through communication but also to channel their fear into constructive work: "Change is a fact. So you can resist it and be left behind and be ruled over, or you can participate in it and influence how it's going to go and hopefully the outcome will be better for everybody all around." He described the philosophy that he tried to pass on to his people: "I've tried to make it pretty clear to the workforce that we are in an environment of change, so they cannot expect not to change."

With the goal of *collaborate or be left behind* in mind, Captain Barge provided his input into the transformation effort, stating, "One thing I've worked for is a commitment to take the best practice from the organization [PSNS&IMF] regardless of which one [PSNS or IMF] comes in with it." Best practices meant finding processes that would work well with both the shipyard and the IMF, each of which had a widely different organizational structure. He not only carried this message to PSNS but also communicated it within his organization, utilizing his Command Information Officer to employ a communications plan that included internal and external web sites, newsletters, and Captain's Call. The IMF CO also met monthly with his general foreman and regularly with his Department Heads, "hammering that message home. I've told them to

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[13] RIF is a Reduction In Force, or furlough. Further, all subsequent quotes from the IMF CO come from this May 6 interview.

hold to best practices and not to sacrifice the mission just for the sake of change. But, in areas where the mission still works and there's some gain to be achieved, they should change."

Throughout his efforts in the transformation, Captain Barge agreed with Captain Orzalli that the transition would not be a short-term task. The IMF CO explained his long-term strategy: "Communicating effectively…that's a never-ending challenge. You could always do better. Even if we declare victory on 01 October 04, we're still going to continue to adjust. And that's a good thing."

3. Shipyard Leadership

Before the consolidation, the shipyard commander met regularly with two groups of leaders: his leadership council and his department and office heads. The leadership council consisted of the shipyard commander, comptroller, operations department head, production resources department head, nuclear engineering and planning manager, non-nuclear engineering and planning manager, human resources manager, and the shipyard commander's executive director. This small, "very informal" (Orzalli, 2004) group of leaders met with him twice every week to discuss both long- and short-term issues. With the consolidation and transition to mission funding, this council served as one part of the shipyard commander's leadership core, involving players that were critical to the transition.

Department and office heads made up the other part of the shipyard commander's leadership core. He met with these managers once a month on a staggered basis, meeting with at least one of them every week, discussing "current issues, but also where we're going." The shipyard commander also conducted strategic planning sessions with these managers. In fact, the shipyard commander invited every department and office head to a morning session at his home to collaborate in redefining the organization's mission, among other strategic elements. From that meeting, the group developed the following mission statement: "One Team Ensuring Freedom by Fixing Ships and Training Sailors." This statement shows that based on the change to mission funding, the shipyard's mission did not change: it was still in the business of fixing ships.

4. Stakeholders

While PSNS management formulated its plan, the shipyard's stakeholders began to prepare for the coming transition. Type Commanders[14], COMPACFLT, representatives from NAVSEA Headquarters, the local Supervisor of Shipbuilding (SUPSHIP), and high level managers from PSNS formed the Local Board of Directors (LBOD) on May 22 and began to meet at least monthly via Video Telephone Conference (VTC). The purpose of this standing board was to assess the priorities for the consolidated activity. As discussed earlier, the new funding system would provide finite resources requiring prioritization of shipyard work; this board would provide the means by which maintenance customers could talk to PSNS&IMF, the maintenance provider. The shipyard commander explained that with the LBOD, all of the activity's customers and stakeholders come together to "understand what the issues are and then how to work through them." This body, he explained further, was a concept taken from Pearl Harbor.

5. Consolidation Managers

Early on in the implementation, the shipyard commander designated a temporary task force of two consolidation program managers, each one an experienced manager from PSNS and the IMF. These two individuals would later form the Transition Management Team (TMT), an oversight team that would lead the assessment of functional areas. This effort, begun in August of 2003, looked at the differences in processes between IMF and PSNS, breaking these down into 12 functional areas. Teams were then formed with members from both the former PSNS and former IMF to work on performing a "gap analysis" (Orzalli, 2004) between the two major organizations and to create Plans of Action and Milestones (POA&Ms) for the transition. (Figure 8 depicts the organization of the functional area teams.)

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[14] Type Commanders with a stake in PSNS are: Commander, Naval Surface Force U.S. Pacific Fleet (SURFPAC); Commander, Submarine Force U.S. Pacific Fleet (SUBPAC), and; Commander, Naval Air Force U.S. Pacific Fleet (AIRPAC)
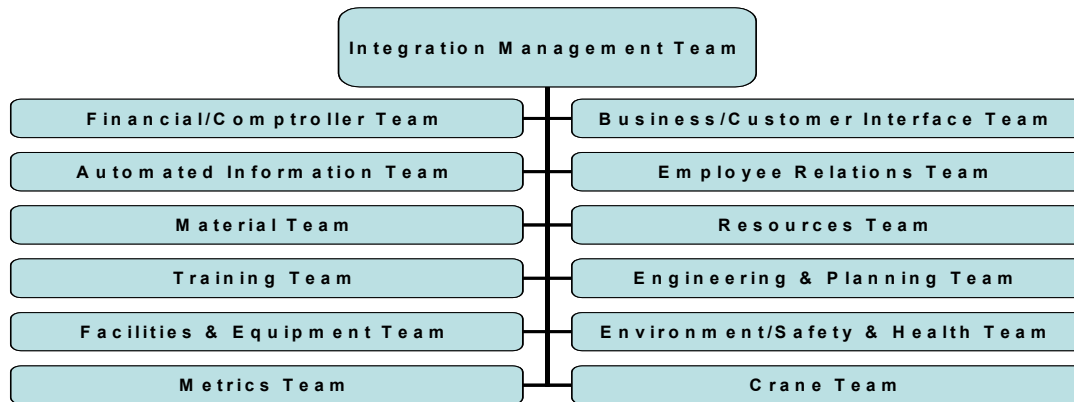
Figure 8.   PSNS Functional Area Teams [After: Maintenance Integration Team Listing, 2004]

These teams met weekly with the shipyard commander and IMF CO and reported to them with any unresolved issues. If still unresolved, the commanders would report to the MIOT for resolution, as previously discussed. The shipyard and IMF commanders employed these teams in order to identify and integrate processes that were duplicated between the two organizations. At the same time, processes that needed to remain unique to each organization would be kept separate.

Metrics were of particular concern to the IMT. Having gone through the difficulties of trying to determine appropriate metrics for the Pearl Harbor pilot program, the offices of the CNO, NAVSEA, PACFLT, the shipyard, and the IMF each looked for metrics of success for the Puget Sound pilot (Consolidation Manager A Interview, 2004). The metrics team produced 12 metrics to satisfy these requirements.[15]   Consolidation Manager A commented on these metrics:

> Everyone wants things measured. They're not looking for opinion, they're looking for facts, measurable conclusions. And so everyone is directing that metrics be developed for whichever element that they're concerned with (Consolidation Manager A, 2004).

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[15] These metrics are: 1) Activity Total Cost Per Total Direct Labor Man-Day Delivered, 1A) Activity Cost to Deliver a Production Labor Man-Day, 3) Facilities and Equipment, 4) CNO Availability Schedule Adherence, 5) Ships Force Workload, 6) Military Utilization and Skill Enhancement, 7) Capability and Capacity, 8) Quality Measure for Consolidation, 9) Maintenance of Workforce Proficiency, 10) Quality of Life, 11) Command Resources, 12) Safety.   No data was available for metrics 2) and 2A). (Pacific Northwest Regional Maintenance Center Website, 2004)

The metrics team develops these metrics, meeting every two weeks to brainstorm these measures. Nonetheless, with these consolidation managers and integration teams in place, the responsibility for the implementation of mission funding rested heavily on the comptroller staff. As the Consolidation Manager B explained:

> They spent a lot of time educating managers and supervisors on 'How do you make this work?' Then after the transition, for the first six months of their campaign for mission funding, they spent tons of time and effort in monitoring that on a week-in-week-out basis, so people know not to overspend. And I would credit them, the comptroller office, with just all the credit in the world…because of the approach they were taking (Consolidation Manager B Interview, 2004).

D. RESPONSES TO THE CHANGE PROCESS

The first task that PSNS faced following the consolidation ceremony was preparing for October 1st, when the consolidated activity was scheduled to transition to mission funding. Within five months, the shipyard's financial systems had to be aligned. In particular, computer systems between the IMF and PSNS had to be interfaced, merging COST, STARS-FL, AIM, and LDS in order for the consolidated activity to work as one. The shipyard commander describes it as a "spaghetti diagram for all the computer patches that have to be in place in order to make it work." The Consolidation Program Managers and personnel from the Code 600 set out to make it work.

On several occasions before and after the transition to MF, representatives of Code 600, the comptroller, Consolidation Program Managers, and other managers traveled to Pearl Harbor. Supervisors averaged four to five working days while principals in accounting and budget averaged eight to 10 days (Anonymous A, 2004). Only portions of Code 600 could make these trips since the remaining staff had to attend to matters at PSNS. Given that their sister shipyard had gone through the transition to MF using similar Information Technology systems, these representatives took a look at the patches that PHNSY&IMF had in place with the goal of bringing home some lessons learned. Code 600 also came with prepared questions that had been developed by the comptroller staff remaining at PSNS.

The Pearl Harbor comptroller staff provided training during these visits, consisting of Power Point presentations followed by Question and Answer sessions. They would also visit Puget Sound on several occasions to aid in the transition. Further, close communication between comptroller staffs proved to be valuable. PSNS Code 600 found, however, that there was no detailed written documentation at Pearl Harbor on how the WCF and MF information systems were merged: information relayed to PSNS staff came mainly from five years of personally accumulated knowledge on the Pearl Harbor financial systems (Anonymous A, 2004).

Nonetheless, the PSNS comptroller implemented a rigorous training plan aimed at communicating and educating Code 600 personnel and shipyard middle management on the fiscal discipline required under MF. All department heads received three to four training sessions, each lasting 30-45 minutes. Every funds administrator (personnel authorized to act on behalf of the comptroller) participated in two sessions, each two to three hours in length (Comptroller B, 2004). They also underwent re-qualification and re-testing on the principles of MF. Further, the comptroller targeted a broader audience by writing several articles in the shipyard newspaper, e-mails on *Read and Learn* topics, and through extensive use of the shipyard intranet (Ibid). Because the people of PSNS had had a long history working in the WCF, the comptroller understood that communicating the change would require massive effort.

As this training went on, however, personnel within Code 600 began to feel the pressures of the transition. They began to face the everyday realities of the change to MF and found that life at work would drastically change.

1. WCF Carryover

A seven-year comptroller employee (Anonymous A) explained that personnel within the department had worked 12 hours a day and seven days a week from mid-August to mid-October, at times until midnight, in the attempt to make the transition in accounting systems. This was due to the level of detail involved in converting WCF accounts into a format usable to the STARS-FL system, as discussed earlier in the chapter. After the transition to MF was made, carryover projects in the WCF still used the COST system. However, as the she explained in an interview, due to the incompatibility of the COST and STARS-FL systems, manual workarounds were

required to identify and collect overhead information from COST. This resulted in errors that required significant amounts of rework to correct. With 572 carryover WCF Customer Order Acceptance Record (COAR) accounts (Anonymous A, 2004), this made the task particularly difficult and labor intensive.

2. Customer Relations

This employee also expressed concern over the change in customer relations. Under mission funding, she found she had to employ different ways of dealing with customers: "When a customer calls asking, 'How's my account?'…" (Anonymous A, 2004) all the employee could do was shrug. Based on the complexity of data processes between COST and STARS-FL, she felt that she could not give the customer an informed answer.

Another employee (Anonymous B) had also worked within the comptroller office for seven years. She explained the difficulties she faced when customers would call to order services from the shipyard: under the WCF, she could simply accept an order and begin processing it; under MF, she felt helpless having to turn away the customer. She just did not have authority to accept the order. Further, when a customer called requesting a price quote, a *man-day rate* under WCF, she also could not answer.

3. Mounting Frustration

Anonymous A felt frustrated with these changes: "It feels like everything is always under construction [and like] it's all happening all at once" (Anonymous A, 2004). She explained that during the transition, things felt reactionary instead of proactive and that the staff was "interpreting and creating unwritten rules" (Anonymous A, 2004). She was learning new procedures as she went, resulting in wasted time and effort, particularly with the cumbersome processing of COARs.

With completely different workflows and a significantly increased workload, Anonymous A's daily frustration began to take its toll: "You get no warm fuzzy when you come to work. You're ready for change, but not change every day" (Anonymous A, 2004). She explained further how the transition was affecting her morale, stating, "You give and give and give…and there's no payback" (Anonymous A, 2004). She then attributed her frustration to a root cause: "There's no instruction, no guideline…it's like: 'Here's mission funding, make it work'" (Anonymous A, 2004).

Anonymous B also expressed concern over the lack of instruction. Having received training six months before the transition, she stated that it felt like a "crash course with no continuing training" and that she was being "told to succeed" (Anonymous B Interview, 2004). Further, she felt that people were being "left to their own perception of change, left guessing" (Ibid). Anonymous A expressed similar concerns, stating that she wanted more written documentation. She felt she would have benefited from sitting with her counterparts at Pearl and watching them work.

4. New Opportunities

As the transition proceeded, the comptroller actively sought to take advantage of planned retirements and hire individuals who would create a team that could successfully implement MF (Comptroller B, 2004). In November 2003, he hired an "intelligent perfectionist" (Ibid) who had 32 years of government accounting work to head the new Code 650 Analysis Branch (Code 600 Division Head Interview, 2004). Created on October 1st of the same year, this division was modeled after Pearl Harbor's Code 100F and reconciled data between STARS-FL and COST and would aid the comptroller in ensuring that the shipyard was on track in obligation and expenditure rates (Ibid).

The comptroller also hired a new deputy comptroller in January 2004 for her extensive experience in mission funding. With three years as an IMF accounting officer, two years as a comptroller at SUPSHIP, and six years as a comptroller at the Personnel Detachment Activity, Puget Sound (Deputy Comptroller Interview, 2004), this deputy comptroller not only brought experience, but also an innovative process initiative: desk procedures. Documenting every Code 600 employee's workflows created these step-by-step procedures. Because PSNS had no such procedures from Pearl Harbor, they had to be created by the users. While desk procedures aimed at streamlining the employee's workflows, it also allowed for cross training and created an interoperable workforce (Ibid). Further, it would provide documentation for future shipyard transformations.

Along with these changes, in April of 2004, the comptroller's job became much less burdened when the Budget and Execution Control Board (BECB) was formed. This body, which reported to the shipyard commander, consisted of the nuclear engineering and planning manager, engineering planning manager, production resources officer, operations officer, nuclear production manager, the executive director, and the IMF CO,

with the comptroller as an advisor (PSNS&IMF NOTICE 7040, 2004). Its purpose was to make decisions on the prioritization and use of financial resources for PSNS&IMF, a function that the comptroller had previously been performing after the shift to MF. While it did not supersede or relieve the comptroller of his duties, it provided command-level control over the consolidation's constrained resources.

5. Effects on Management

The frustration felt within Code 600 did not seem to reflect the rest of the shipyard's involvement in the mission funding transition at the lower levels. An anonymous manager (Anonymous C) who had been employed at PSNS for 34 years explained that middle managers were essentially shielding the shop worker from the effects of the transition to mission funding:

> Really, I think it's at the higher levels for mission funding because we made a conscious choice, I believe, at the shipyard for the average worker: nothing was going to change for him. He still comes to work; he still clocks in and clocks out, still has a job, and still gets a paycheck every Tuesday. So mission funding shouldn't have an impact on his level (Anonymous C Interview, 2004).

On the other hand, this same middle manager reflected a need for specific clarification of what mission funding meant in his own job:

> We all have a different feeling on what [mission funding] meant. In my mind mission funding is one job order. You go to work you get the [work on the] ships done, but we still got a million job orders, you know? We keep track of the infinite detail of what people do…So, it didn't simplify our lives any, the way I see it (Ibid).

Anonymous C then offered a recommendation:

> I think that there ought to be a mission funding handbook, or something like that, that gets down to the basics, that, you know, 'What do you charge to when you're working on a ship?'…I don't know that there is a 'Mission Funding 101' book, but I think there should be (Ibid).

This manager's supervisor (Anonymous D) offered a positive outlook, saying that despite the difficulties of the change that he "can see daylight here," commenting on a

fairly upbeat environment. However, he also reflected on the different effects of change on different levels of the organization:

> "I like [the changes], but I also get frustrated at the pace and speed. I think at our level, it's easy for managers to espouse change and advocate change. I think where it's really hard is defining what it means to your mid-level folks and the workers. The biggest resistance level is always the mid-management [such as division managers and first-line supervisors] where they don't see where you're really going, they don't know how it affects them, they always feel overwhelmed because you've laid so much on their plate. I think you'll find most upper managers in most businesses are not afraid of change, or they wouldn't be where they are (Anonymous D Interview, 2004).

Another employee (Anonymous E) offered a candid point of view about the change:

> I think the change is at a whirlwind pace. There's so much change between the change in the funding mechanism to the change with consolidations, the change to regional maintenance, the corporate changes going on to the "One Shipyard", to draw down the size of the overhead and to take savings, transformation savings. It's all up to the point, it seems, that there's too much change going on, which could lead to a lack of focus, and maybe not doing good on any one particular thing we're asked to do…(Anonymous E Interview, 2004).

The employee, dealing with the frustration, then offered a suggestion:

> I think that the initiatives are all good, and I certainly support them. But what I just wish is that these things were done maybe perhaps a little bit in series to be able to move into the initiative [and to] recognize the lessons learned that come out of them, make the changes to support the lessons learned and then move on to the next change. But…I fear, in a way, that with all the changes going on, something may fall out in terms of preparation or being successful…(Ibid).

He then stated that having a "chronological road map on what to do, and when to do it, and when to do it by" would make the change easier, and that prioritizing changes would also help: "To simply say it's all important, to do it all now, makes it tough" (Ibid).

The shipyard commander offered his own recommendations for future shipyard change managers:

> Determine what your functional areas are, cross-reference them, bounce some gap analysis with whomever you're consolidating with so you're not doing it after the fact. Because the functional areas are not going to change; they're going to be [merged] together. So that would be my recommendation…to look at the functional areas and how they line up, and then from that will drive what you're requirements will be and then that will help you drive to the consolidated organization.

The IMF CO had some further recommendations: "I think a specific timetable would help. I think in the big scheme of things, we've had a sort of rough timetable." He also provided a method of obtaining detailed plans, stating, "I think we've made the best progress when the two commanders have had direct face-to-face interaction with either the [functional area] teams or the Integration Management Team...when the commanders have had direct attention on what the issues are, what the progress is…" Command-level involvement, then, is another Key Success Factor. Finally, he offered three levels of managing a mission-funded organization:

Level 1:   Manage scarcity by prioritizing work – the basic level

Level 2:   Seek out efficiencies within the organization to find savings

Level 3:   Identify alternative funding sources.

The IMF CO explained the principle behind level 3:

> See, that's one thing we've figured out here [at IMF]: we've got machinery that's been *given* to us because it dries up a HAZMAT [hazardous material] stream or [reduces] pollution. The Navy has pockets of money…so mission funding should drive creativity. Instead of saying, 'Give me more money!' you have to figure out, 'Okay, who does have some money that they're willing to give and is there some way I can tap into that?'

E.   CHAPTER SUMMARY

Puget Sound Naval Shipyard has undergone a long change process. Political, economic, social, and technological trends have resulted in mandates that directed the Puget Sound shipyard's transformation. These mandates created design changes aimed at

both the organization's structure and financial management system. Facing both strategic issues at the same time, PSNS management was tasked to formulate its own strategy and provide direction to the organization on how to implement the change. While reaction to the change varied, employees whose workflows were affected felt a sense of frustration. The analysis of this case will be presented in the following chapter.

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IV. CASE ANALYSIS

This chapter examines the case of the Puget Sound Naval Shipyard and applies the change management and organizational principles summarized in Chapter II. In doing so, it analyzes how well these shipyard managers are affecting change at the naval shipyards. It also provides a basis for the findings and recommendations presented in Chapter V.

The chapter begins by examining the way management has implemented change at PSNS, analyzing how well management has aligned its strategy with the six recurring change principles. Then, using the broader analysis of the Organizational System's Framework, the chapter assesses how well the PSNS system has adapted to its environmental changes, applying the principles of open system theory to the organization.

A. APPLYING THE SIX RECURRING CHANGE PRINCIPLES

Through its transition to mission funding and its merger of other activities, PSNS is undergoing a difficult transformation. Its management created its own strategy to overcome transformational challenges, and in so doing provided lessons learned for future shipyard transformations.

1. Formulating a Clear System Vision Statement

The shipyard commander worked painstakingly to communicate his vision for the shipyard. He used every opportunity to paint a picture of the organization's future (transforming the shipyard into a provider for the nation's needs, given a new environment) and to explain why the changes were necessary (Operation Iraqi Freedom, Fleet Response Plan, "One Shipyard" initiative). He also attempted to link the changes to individuals' work by using specific examples of individuals, projects, and process improvements within the shipyard. The shipyard commander deliberately targeted his people as the audience for communicating his vision for the shipyard, supporting the basic principles behind creating a clear system vision.

The next step, however, remains. While his vision singled out areas requiring change, appeared to be reasonably concise, and did not reflect complicated plans or

programs (Kotter, 1996), Puget Sound Naval Shipyard had not yet rewritten its vision statement as of the time of the thesis interviews. Although the command's mission statement had been updated through strategic planning meetings, the vision statement had not.

While the case showed that the shipyard commander had a precise and clear vision of the organization's future state and took extensive measures to communicate it, these interviews suggested that employees could benefit from a written vision statement. As outlined in Chapter II, a clear vision statement would set clear targets, avoid technical words, and eliminate alternative interpretations of the vision. Furthermore, it would use passion and conviction to translate words into images that would linger in people's minds.

Even with the shipyard commander's extensive communications initiatives, alternative interpretations of the organization's vision still existed. When asked about the shipyard's vision under mission funding, employees had differing interpretations. Some of this confusion can be attributed to the word *vision* itself, which can be an evasive concept at any level of an organization. Furthermore, these employees linked the organization's vision directly to their everyday experience with mission funding, expressing a frustration partly rooted in a lack of detailed instructions. (This need for detailed instructions is discussed further in Section 4 of this Chapter.) Employees called for things like a mission funding handbook or detailed instructions on how to perform their tasks, items not necessarily attributable to a lack of alignment with change, which vision aims to overcome.

It is instructive to note that the shipyard commander never mentioned the word *vision* in his interview, suggesting that he may have purposely avoided the abstraction of the word in his communication to his workforce. But due to the many unknowns in their daily lives, employees associated their frustration with the organization's vision. Providing a written statement of the vision, then, may help to alleviate this confusion.

2. Obtaining Change Leadership Critical Mass

As the case study reveals, the shipyard commander is a strong leader who focused his change efforts on his people. Throughout his interview, he consistently tied conversations back to the people from the shipyard, speaking of implementing change by

openly communicating it. He also talked of getting people excited about change by showing them the possible benefits they could obtain from it. Furthermore, he spoke on a personal level regarding the honesty of his communications, his concerns over alleviating people's fears, and the never-ending struggle to align people with the change. With these as indicators, the PSNS case shows that the shipyard commander is a powerful driver for change within the organization, in keeping with the principles outlined in Chapter II.

The shipyard commander also formed a core of leadership consisting of several groups. His leadership council provides a close and informal forum by which important stakeholders can discuss and contribute to the shipyard's direction. In addition, through a broader group of stakeholders, the shipyard commander includes department and office heads in the development of plans, even including them in a collaborative process to develop key directional elements for the organization (as Jick, 2003, suggests). For the change, he also created the Integration Management Team that includes stakeholders from both the former PSNS and the former IMF to lead process improvement. The 12 functional area teams also provide leadership groups that are attempting to determine the future state of the organization. Finally, for the change to mission funding, he has left managerial and leadership specifics (as Kotter, 1996, recommends) to the comptroller, who aggressively took on the leadership role.

With several leadership groups in place, the shipyard commander has surrounded himself with a strong leadership coalition. Difficult decisions are being made at lower levels, and collaboration is a key element within these groups. Thus, PSNS leadership has amassed a critical core, demonstrating adherence to this change principle.

3. Communicating on Multiple Levels

As discussed previously, the shipyard commander embodied the principle of open and pervasive communications. As the cornerstone of his change management strategy, his communication was deliberate and methodical with the intent of being inspirational, speaking on the transforming the shipyard to meet the needs of the nation and tying this concept to employee's jobs. His communication strategy also met the tenets outlined in Chapter II.

First, the shipyard commander attempted to create a sense of trust by addressing what he expressed was his core challenge in the change: employee fear. He also

espoused transparent management with his communication plan, providing a strategy that would inform the workforce of any shortfalls. Further, he expressed concern over the alignment between communicated words and actions and talked of exciting people over the change, an element that Kotter (1996) espouses. Finally, the shipyard commander used every available channel to market the change, communicating on a daily basis through personal addresses and visits, meetings, newsletters, and videos.

The IMF CO reflected a similar strategy. While his communication strategy was not a focus of the thesis, his strategy did address employee fear, attempting to channel the energy into constructive inputs for the change. He also communicated on a daily basis and used multiple channels such as frequent meetings with his leadership stakeholders, newsletters, and Captain's Call. Thus, the pervasiveness of communications from both the shipyard and IMF commanders displayed the importance of this principle in implementing the changes at a consolidated activity such as PSNS&IMF. Finally, the shipyard commander used every available channel to market the change, communicating on a daily basis through personal addresses, frequent visits, meetings, newsletters, and videos.

Shipyard managers, therefore, should embrace the shift to mission funding and serve as champions of the transformation. Leadership by example becomes critical during organizational change when actions visibly communicate management position and when inertia can present a threat to change. Further, shipyard management should disseminate the vision down to the ranks of the organization through daily and pervasive communications.

4. Addressing Change Inertia

The shipyard commander and the IMF CO both viewed organizational inertia through the eyes of their people, qualifying it as fear. This assessment indicates that these leaders recognized the organizational blocks to change. Arguably, by addressing their people's fears, these leaders were able to gain acceptance and support from both employees and managers. In fact, one employee stated that she was ready for change (although not for change every day). Given this statement, is acceptance and support enough to overcome people's challenges in the transition?

a. Implicit Employee Contracts

Chapter II describes Strebel's (1998) concept of three implicit contracts between an organization and its employees and relates this idea to the two major equilibria involved with an organization. Psychological contracts (unwritten mutual agreements) and social contracts (those that compare the actual versus the espoused beliefs and values) could not be analyzed for this case, since data for this comparison were not yet available. The case study shows, however, that formal contracts (agreements on established task and performance requirements) had not been renewed after the change.

The quoted Code 600 employees, the career middle manager, and the anonymous employee were left to work out the details of their tasks on their own, just like the shipyard commander. For these employees, formal contracts established under the WCF had become null and void. Tasks and performance requirements were being recreated as work went on, to the point of employee frustration. Without any guidance on how to conduct their work under mission funding, these personnel sought specific direction and "chronological road maps" (as the anonymous employee stated) on how to conduct their every day work processes. While the organization underwent transition, these formal contracts needed to be renewed.

These employees also expressed a loss of control in their workplace with the transition to MF. This was reflected in comments such as "change every day," "it's all happening all at once" and "it didn't simplify our lives any." With the shift to mission funding, organizational norms and comfort zones associated with the WCF structure were eliminated. If given specific direction on how to conduct their work, these personnel would likely obtain an increased sense of job control.

The PSNS case shows that employee alignment with change is not enough to overcome barriers and inertia to change. When it comes down to it, where the change has the most effect is in how it affects everyday lives and personal contracts. At the same time, however, a change leader cannot be reasonably required to determine how a change will affect every single detail of every single employee in the organization. Nonetheless, shipyard management may have a tool to aid not only current transitions, but also future ones.

Desk procedures are being implemented within Code 600 at PSNS, although no evidence was gathered that such procedures were being used in other offices. Others in the organization whose work processes have been affected by the change to MF may benefit from their use. This includes, in particular, middle managers. These desk procedures could not only bring structure to the new work processes, but could provide future use by other shipyards that will be transitioning to MF. Although desk procedures would not eliminate the initial need for instruction, subsequent employees would have the benefit of specific instructions. Further, even without initial instructions, consciously undergoing a change process with the understanding and acknowledgement that no procedure exists may help to channel employees' efforts into creating the very instructions that they lack.

b.   *Sense of Urgency*

By communicating the future vision of the shipyard and the importance of employees' tasks to the workforce, the shipyard commander attempted to create a sense of urgency for the changes at PSNS, as recommended by Kotter (1996). These sessions, however, could better create a sense of urgency in a way that Nadler and Tushman (1989) recommend: alerting people to the pain that may result without change.

Due mainly to command-level involvement in the massive consolidation, creating a sense of urgency for implementing MF was delegated to the comptroller. His aggressive training program to educate the workforce on the transition to MF sanctioned this sense of urgency. As the comptroller conducted training on the legal restrictions and repercussions of appropriated funding, part of his aim was to instill a sense of responsibility over the new form of funding. By warning management of these legal sanctions, the comptroller was working to instill a sense of urgency for change over the fear of financial pain.

Although the comptroller took the lead in creating this sense of urgency, it should be noted that the responsibility for communicating the legal aspects of mission funding should not fall entirely on the comptroller. As discussed in the case study, the creation of the Budget Execution and Control Board reflected this realization. With budgetary control and maintenance prioritization receiving command-level attention, the responsibility for fiscal discipline was raised to a higher level in the organization,

escalating its importance and visibility. Thus, instilling a sense of urgency and potential pain over the legal constraints of MF should be a task receiving full attention by the senior levels of the shipyard command, just as PSNS has shown.

c.   Long-term Inertia

Shipyard and IMF leadership were explicitly aware of the need to implement a long-term strategy for change. In fact, both commanding officers expressed the need for command involvement in what they considered an unending change process. Although these commanders did not view it as a constant struggle against organizational inertia (as Chapter II suggested), each viewed the situation as a long-term change. Both commanders understood that for them to achieve success, they would have to "never be satisfied" and "continue to adjust."

This long-term, command-level involvement in the change process is vital for the transition to mission funding. These leaders looked beyond their tenure as commanding officers to keep the change in perspective: the transformation of their organizations would still be occurring after they changed commands. Sharing this similar view additionally showed unity of command and alignment toward a commitment to long-term success. At the same time, this long-term view of change may have benefited from short-term successes.

5.   Creating a Learning Organization through Short-Term Results

The Puget Sound case study also shows that senior Navy leaders have adopted an important aspect of change management: results-oriented change. Through the trial-and-error experience over metrics at Pearl Harbor Naval Shipyard, PSNS is developing a robust system for measuring results, expanding the baseline for measures to 12 metrics. While measuring these outputs may seem cumbersome to managers, they drive at the heart of creating a learning organization. However, as the literature review reveals, measuring results is only part of this change management principle.

Interviewees (managers and employees) communicated a feeling of frustration over how much change PSNS was undertaking. As the case explains, PSNS went through a rapid succession of major changes: from the consolidation with IMF and five other minor activities in May 2003; to the transition to mission funding in October; to the merging of SUPSHIP, FTSCPAC, and portions of CNSGPNW the following May. This

was part of the cause for frustration revealed by phrases such as "change every day," "everything is always under construction," and "frustrated at the pace and speed." The anonymous employee summarized these observations by stating, "change is at a whirlwind pace."

The employees' observations reinforce the findings presented in Chapter II: The key to these results-based changes is implementing incremental results. As the anonymous employee suggests, taking the changes "perhaps a little bit in series" would help. This statement also suggests that management could benefit from working toward short-term results, an example of which would be the early assessment of functional areas and the implementation of best practices, as the shipyard commander and IMF CO suggested. Another example that could benefit the comptroller staff is the creation of specific milestones for the alignment between COST and STARS-FL. If these managers and employees could observe such incremental results, they would be given the opportunity to celebrate short-term successes.

The literature review also explains that "initial bursts of change activity followed by relatively sedate progress" (Amis, Slack, and Hinings, 2004) mark a successful change program, and that prioritizing improvements would help achieve this pattern. The anonymous employee reinforces this concept by stating, "to simply say it's all important, to do it all now, makes it tough." To aid such employees in implementing change at the shipyards, then, managers could direct their initial efforts into quickly but effectively changing major processes. For example, patches between the information processing systems COST and STARS-FL could be completed very early in the transition, just as PSNS Code 600 personnel attempted to do following the consolidation.

Given the information that he had about the Pearl Harbor transformation, the shipyard commander attempted to implement the best practice by slowing down the pace of change at PSNS. Despite his efforts to implement deliberate and gradual change, however, employees still felt that change was happening too fast. Arguably, the shipyard commander's efforts to slow down the change helped to avoid the chaos associated with attempting to implement change immediately and concurrently as was done at Pearl Harbor. For example, the creation of the IMT and functional area teams showed a commitment to assessing the impact of management's actions during the change, to

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eliminating processes that did not contribute to overall goals of the change, and to creating a learning process for the change, three concepts suggested by Schaffer and Thomson (1998). These teams were intended to work toward best practices for the entire organization as it transformed. Nonetheless, based on the needs of the Navy, these changes were, by nature, immediate and concurrent.

While external mandates continue to direct immediate design changes within the shipyards, management cannot control the overall pace and speed of change in their organizations. Based on the command and control structure of the Navy and the urgent need for flexible maintenance capabilities, slowing down the overall pace of change and taking changes in series is not practically feasible for the Navy. However, management can employ methods to relieve organizational frustration with this overall pace.

Prioritization could benefit employees. By patching the two incompatible accounting systems early on and using desk procedures to document this, personnel in the Code 600 office could benefit from early change. Further, middle managers working with the two different financial systems could establish their workflow norms early, allowing for work to proceed and for subsequent, minor changes to take place.

Creating short-term successes could also help. Because employees did not see immediate results of their efforts, they felt as if they were in perpetual change. While long-term goals are in place, short-term targets would help. Together, prioritization and the creation of short-term successes could help to lessen the effects of unknown task and performance requirements.

6. Rewarding Change Behavior

As discussed in Chapter II, management can affect (but cannot create) culture. Further, as Kotter (1996) explains, changes to culture emerge only when new behaviors produce continual benefits to the organization's people. The PSNS shipyard commander acknowledged this as a part of his change strategy, advising that change managers must "take behaviors that support the change and reinforce them" (Orzalli, 2004). This statement displays an understanding that change at the shipyards cannot simply be directed to occur. While the shipyard commander took orders from higher up his chain-

of-command, he understood that implementing change within his organization did not mean simply relaying that order. He understood that he had to reward and reinforce his people's new behaviors.

On the other hand, some would argue that the centralized nature of the shipyard command structure eliminates the need for such a leadership mass. When upper management sends a directive down the chain-of-command, Navy leaders are trained to take the order and disseminate it as if it were their own, barring any professional dissent. In a sense, then, such a core of leadership automatically forms under the command-and-control structure and should not require additional effort.

Such a concept of leadership at the shipyards, however, has one critical fault: the organizations' overwhelmingly civilian workforce. Given the lack of a truly command-and-control structure and the underlying principles of the change inertia, efforts to force change upon the shipyard could serve only to defeat its own purpose. Furthermore, the public sector civilian workforce is better equipped against furloughs than employees in the private sector; inertia thus cannot be underestimated. Therefore, a single directive alone cannot take the place of leadership in a change program at the naval shipyards.

Despite the shipyard commander's acknowledgement of the need to reward people for change, however, evidence suggested that the shipyard's reward system could benefit significantly by receiving command-level attention. Although the shipyard commander displayed a commitment to change through his persistent message and his establishment of integration teams, and although he attempted to draw change behavior into everyday employee lives through a rigorous communication plan (both attributes that Kotter, 1996, espouse), the task of rewarding change activities was delegated to the PAO. This observation is not made to understate the PAO's effectiveness in implementing such a program; rather, it suggests the benefits of displaying command-level commitment to rewarding change behavior.

Albrecht, et. al (eds., "Implementing", 2002) further recommended four aspects of creating a learning organization. Based on the available data, three of their recommendations (integrate learning processes into training programs, attempt to prevent learning from becoming a chore, monitor progress and take action quickly) could not be analyzed. The final aspect (be open to employees about failure) was discussed in Section

3. Aside from this discussion, transparency of shipyard management, which the PSNS shipyard commander espoused, would allow the workforce to not only celebrate successes but also understand organizational failures. Doing so would maintain the people's alignment to change and would also allow the workforce to understand the potential impacts of their actions.

Understanding, therefore, that cultural change emerges from incremental change, shipyard managers can look to institutionalize the process of change by affecting their cultures. From managers to employees, transformation must be incorporated into every part of the workplace in order to ensure the longevity of change efforts.

7. Summary

Table 2 summarizes the results of the change management analysis on the Puget Sound Naval Shipyard case. PSNS management has closely implemented two of the six change management principles, Amass a Leadership Core and Communicate on Multiple Levels. Improvements in the remaining four principles may help management implement a lasting change process.

Create a Clear Vision Statement	Management's vision is clear, but employees' interpretation could be clarified. While the shipyard commander has worked laboriously to communicate his vision, the next step lies in creating a vision statement to clarify the organization's future state.
Amass a Leadership Core	Shipyard commander's core consists of leadership council, department and office heads, IMT, functional area teams, and comptroller. Delegation and collaboration are key characteristics.
Communicate on Multiple Levels	Shipyard commander makes communications a priority, using multiple channels in the attempt to ease fears, communicate openly, and to excite the workforce. IMF CO reflects a similar approach.
Address Change Inertia	Shipyard commander and IMF CO have gained general acceptance, but employees require specific task and performance requirements. Without such detailed guidance, employees may lose their sense of job control.
Control Pace with Short-term Results	Managers can prioritize and attempt to implement short-term results. This will help provide direction, moral support, and a sense of progress and accomplishment to employees and middle management and to provide some control over the pace of change.
Reward Change Behavior	PSNS&IMF management is working to reinforce new behaviors and is developing a reward program for change. However, command-level involvement may show a greater commitment to rewarding change.

Table 2.   Assessment of PSNS Change Management.

B.   APPLYING THE ORGANIZATIONAL SYSTEM'S FRAMEWORK

Chapter II described the Organizational System's Framework as an open systems model that contains several interrelationships. The case study shows one such interrelationship between the design changes in structure and financial management. It also demonstrated the ripple effect of change as each change affected the other. Finally, the case reveals the key success factors required to undergo the transformational change.

1.   Multiple Change Efforts

Change at PSNS occurred, like for most public organizations, based on external mandates. These mandates directed change in two specific design factors: structure and financial management. While creating change in just one design area poses challenges on its own, undergoing two such changes simultaneously proved to complicate management's transformation efforts. Because of the breadth and depth of the structural change, the implementation of financial management change was affected.

PSNS and IMF were two distinctly different organizations. Their people were different, with civilian maintenance employees forming the majority of the workforce at PSNS while a mix of military and civilian employees worked at IMF. Tasks were different as well, with multiple production lines at PSNS versus the one submarine production line at IMF. Finally, workflows were different as PSNS worked under the AIM planning system and IMF worked under LDS. The consolidation of the two major organizations, then, posed significant challenges to management.

PSNS management attempted to focus on both changes at the same time mainly due to the framework of the shipyard's mandates: to transform the shipyard into a flexible, ready maintenance provider. With these mandates, the transition to mission funding became categorized as simply a part of the consolidation. The mandates thus directed two simultaneous changes. In fact, the mandate's justification qualified the change in financial management as a secondary effect, asserting that the shift to mission funding would simply benefit the consolidation effort. Because this mandate understated the importance of the change to mission funding, management was given a framework for implementation that would do the same.

The shift to mission funding should not be underestimated. The shipyards would benefit from command-level attention to the impact of transitioning from a revolving

fund to appropriated funding. The creation of the BECB reveals a vital learning experience for PSNS as it signaled a change in management mindset over the shift. This mindset for fiscal responsibility under constrained resources, a shift created within PSNS, must be carried on to future shipyard transformations.

2. Ripple Effects on the Organization

Corrective interventions within an organization theoretically create ripple effects throughout. PSNS was no exception. While the majority of disrupted workflows existed within the financial management design factor, the change also affected middle managers such as the anonymous manager. His department head also shed light on how middle management became affected. Just like the employees of Code 600, the anonymous manager was seeking the definition of mission funding as it applied specifically to his job. The change in financial management not only affected the comptroller's office, but affected other workflows.

It even affected the shipyard commander. With a large number of WCF carryover projects and having to work with "multiple sets of rules all at the same time" (Orzalli, 2004), his job of assessing and ensuring the success of the transition had become noticeably hindered. Although these difficulties should presumably subside as WCF projects become completed and a learning curve is built, they show that the shift to mission funding affected various workflows in the organization and demonstrate the ripple effect of the change.

Senior shipyard managers undergoing this transformational change must understand that changing their financial management system will not simply affect the comptroller's office. In fact, over reliance on delegated authority to the comptroller would understate the importance of the shift. Management would benefit from recognizing the effects of the transition to mission funding and from framing their changes as organization-wide.

3. Key Success Factors

PSNS management faced more than one strategic issue in their transformational change. As it attempted to align financial systems, management was attempting to

undertake the challenges of consolidation. In so doing, however, PSNS management and employees revealed some of its key success factors – factors applicable to future shipyard transformations.

a. *Command-level Attention to Mission Funding Issues*

Multiple consolidations at PSNS arguably distracted management from the important issue of financial change. The responsibility over the prioritization of maintenance work initially fell upon the shipyard comptroller, causing him to make important decisions based on limited information. The creation of the BECB, however, brought the strategic issue of financial success under MF on the same level of attention as the consolidation of maintenance facilities and processes. This provides a key success factor for the shipyards' change to MF: command-level attention to mission funding issues. Future shipyard transformation managers, therefore, should not underestimate the dramatic change from a WCF-driven culture to one under MF.

b. *Commitment to Best Practices*

The differences in design factors, while creating difficulty, also provided a means for a mutually beneficial relationship. Having had the experience of operating under mission funding, IMF personnel had important lessons to teach. The shipyard commander and IMF CO made a commitment to implement best practices between the two organizations, showing collaboration at the command level to building such a relationship. The consolidated activity also included members from both PSNS and IMF in the functional area teams, an important element for implementing the transformation. Finally, the hiring of a Deputy Comptroller with vast experience under MF significantly enhanced the ability of PSNS Code 600 to take on the challenges of the new structure. Another key success factor for PSNS&IMF and for future mission-funded shipyards, then, lies in involving personnel with MF expertise in producing best practices under MF.

c. *Specific Timetable of Milestones*

The IMF CO was one such example of MF expertise. His organization's experience in MF would serve as a vital source for learning. One key success factor offered by the CO was the creation of a specific timetable of milestones, which further supports the conclusions of creating short-term results. The critical requirement for creating such a timetable, as suggested by the IMF CO, would be command-level

involvement. In his interview he stated that he saw the best results when both the shipyard commander and he interacted closely with the Integration Management Team and the 12 functional area teams. Such command-level involvement would hold teams accountable to creating incremental successes for all mission-funded shipyards.

d. Alternative Funding Sources

The IMF CO also offered that managing a mission-funded activity involved adopting a different mindset. He explained three levels of MF management, with the third level being i*dentifying alternative funding sources*. The IMF CO explained that rather than living with the limited funds provided through appropriations, the IMF sought out such alternatives as free equipment from environmental protection organizations. Level 3, then, provides a final key success factor that PSNS may or may not be currently implementing, but one that the mission-funded consolidated activity could adopt.

e. Functional Area Assessments

The shipyard commander offered a critical milestone and key success factor that his organization had discovered through the change process: functional area assessments. Defining functional areas and organizational roles and responsibilities early on in the transformation allowed PSNS management to overcome a major step in their transition to MF as a consolidated activity. At the same time, it would eliminate overlapping functions and seek to employ best practices. Doing so also supports the principle of creating short-term results, allowing management to move on to less difficult changes. Functional area assessments, therefore, may help shipyard management in determining and defining organizational boundaries as it faces the many unknowns of transformation.

f. Desk Procedures

Finally, the employees of PSNS Code 600, anonymous managers, and the anonymous PSNS&IMF employee together revealed a major key success factor for easing transition to MF: desk procedures. PSNS employees and management were navigating uncharted waters through the transition to MF. Desk procedures may now be helping Code 600 define workflows. Because no written guidance will be given to future transitioning shipyards, documentation of specific lessons learned in workflow

management will be essential for working under new conditions and for successfully changing financial management structures at the shipyards from Working Capital Funds to mission funding.

4. Summary

The OSF shows the interrelationships within the Puget Sound Naval Shipyard, framing the organization's changes within two major design factors. While it reveals the effects of one change over the other, it also shows the ripple effects of the changes as multiple levels of the organization are affected. Finally, it produces key success factors for the change, as summarized by Table 3.

Command-level Attention to Mission Funding Issues	With multiple changes occurring at the same time, the change to mission funding may receive less attention than needed. Senior leadership at the consolidated, mission-funded activities should engage in this difficult shift in mindsets.
Commitment to Best Practices	Lessons can be learned from individuals with MF expertise. Shipyard management is benefiting from some of the differences in design factors between PSNS and IMF and the hiring of new personnel, creating best practices for the consolidated activity.
Specific Timetable of Milestones	This could help create short-term goals for the organization's people. PSNS&IMF is showing that such a timetable can best be created with command-level involvement.
Alternative Funding Sources	Rather than working with the limited funding available through mission funding, seek out alternative sources to help supplement the consolidated activity's budget.
Functional Area Assessments	Define roles and responsibilities early on in the transition to employ best practices, eliminate overlapping functions, and provide the foundation for future change.
Desk Procedures	Specific workflow documentation will be a key to providing guidance into unknown territory. Applications may be made at various levels of the shipyard organization.

Table 3.   PSNS Key Success Factors.

C. CHAPTER SUMMARY

Puget Sound Naval Shipyard has implemented a change program that, through managerial analysis, has produced possible areas of improvement and key factors for success at future shipyards. While improvements can always be made in this long and difficult transformation process, this essay outlines methods by which the naval shipyards can better implement mission funding. These principles can be applied to future shipyard

transformations with the aim of aiding managers in implementing a lasting change program under a mission-funded structure, allowing the Navy to meet the growing demand for global defense.

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V. FINDINGS AND RECOMMENDATIONS

This chapter presents the findings resulting from the analysis in Chapter IV. It will present the results of the thesis by answering the research questions posed in Chapter I. It will then explain the limitations of this study. Lastly, it offers recommendations for further consideration under the topic of implementing the mission-funded naval shipyard.

A. FINDINGS

Chapter I presented a primary thesis research objective of determining how naval shipyard management could better implement mission funding after having operated extensively under a Working Capital Fund structure. To achieve this objective, it posed the following supporting research questions:

- What are the differences between WCF and MF? What managerial implications do each hold for shipyard managers?
- What organizational theories can be applied to change at the naval shipyards?
- What are the basic principles of transformational change? How can these principles be applied to the naval shipyards' transformation?

Working Capital Funds and mission funding are two bipolar funding structures. While the WCF promotes business-like relationships aiming at full cost visibility, MF promotes the management of scarce funds. Where incentives exist under WCF to attract additional work to lower per-unit overhead allocation, incentives under MF are to improve efficiency and effectively prioritize work. Under WCF, seeking out extra jobs fills periods of low workforce utilization; under MF, these periods are used for training, proficiency work, or leave. Further, a WCF shipyard charges costs when material is used; at a mission-funded shipyard, once material is ordered, money has been obligated. Finally, where success under WCF meant breaking even, under MF it meant completing organizational processes under constrained resources. These differences create the underlying challenges of change at the naval shipyards.

This thesis has shown that several principles exist in current management literature that can be applied to this change at the naval shipyards. Applying six recurring principles of successful change management, the author offers the following recommendations to shipyard managers:

- Early in the planning phase of the transition and consolidation:
    - Create and post a clear vision statement to align employees with change
    - Amass a leadership core to delegate duties and encourage collaboration to drive change
- Throughout the execution of transformation:
    - Communicate on multiple levels and as close to a daily basis as feasible
    - Address change inertia by tending to employees' specific tasks
    - Alleviate the given pace with prioritization and short-term successes, completing the most important changes first
    - Reward change behavior

Further, through analysis using an organizational open-systems framework, the author recommends the following key factors for success in implementing mission funding at the naval shipyards:

- Provide command-level attention to:
    - Establishing and executing a change reward system
    - Addressing mission funding issues
    - Creating specific timetables for execution
- Make a commitment to best practices and:
    - Surround yourself with mission funding expertise
    - Seek alternative funding sources to supplement the budget such as environmental protection grants and donations
- Perform functional area assessments early in and throughout the change process
- Develop and employ desk procedures where practicable

Managing the change to mission funding at the shipyards has been and will remain a difficult task. Undergoing a series of difficult changes all within a short time, managers and employees alike will work to redefine the organization. These findings seek to ease the transition to mission funding for the Navy's transforming shipyards.

B.   LIMITATIONS OF STUDY

In conducting the research for this thesis, interview data were limited in scope due to constraints on time. Key managers who were deeply involved in the change process and employees at the center of the change were selected for interviews. Analysis and findings were thus formed with a limited sample size of data. While these interviews aimed at the center of the change process, further interviews with a larger random sample size may produce broader results.

C.   RECOMMENDATIONS FOR FURTHER STUDY

Implementing mission funding at the naval shipyards is a topic rich in issues for managing a change revolving around a fundamental change in financial management. Many of the principles researched for this thesis can be applied in the following topics:

1.   Comparison of Change Implementation

Having completely different design factors than Pearl Harbor Naval Shipyard, Puget Sound Naval Shipyard offers a unique look at the implementation of mission funding. Further study comparing and contrasting the implementation methods and programs between PHNSY and PSNS may benefit both shipyards. Further, a comparison between these two programs may produce lessons learned for Norfolk and Portsmouth Naval Shipyards

2.   A Study on the Improvements in the PSNS Pilot

A second look at the PSNS pilot program and the implementation of change at the shipyard may be performed in two years' time. Such a study could apply the principles found through this research and take a look at how far PSNS management has come in the transformation, what issues they are facing, what the organization's future looks like, and how the shipyard fits into its environment. This study could aim at providing further recommendations for the PSNS change program.

3.   Application of Thesis Principles to Other Shipyards

The principles of organizational theory and change management presented in this thesis may be expounded upon using additional research. Further, with Norfolk Naval Shipyard (NNSY) and Portsmouth Naval Shipyard (PNSY) scheduled to transition to MF (pending PSNS results), these accumulated principles can be applied to NNSY and/or PNSY to aid managers in establishing their change programs.

4.   A Study on the Change Implications of Consolidations

While this study revolve around a look at the implications of a change in financial management systems, further studies can examine the issues revolving around consolidating two vastly different organizations. Several resources are available regarding the mergers of private and of public sector organizations. As a major part of the shipyards' transformation, this research may be helpful in implementing the two design factor changes.

5.   A Study on Applications to Other Public Sector Organizations

Principles of change management apply not only to the naval shipyards, but to all public and private sector organizations. The Department of the Navy, Department of Defense, and all government agencies are transforming to meet the needs of the nation's emerging needs. As these organizations undergo differing levels of transformational change, the principles researched in this thesis may be applied to aid management in successfully implementing change.

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